00175021

NOT TO BE ISSUED
OUT OF THE LIBRARY.

971

THE
ASIATIC SOCIETY OF BOMBAY
TOWN HALL, BOMBAY-400 023.

Digitized with financial assistance from the
Government of Maharashtra
on 28 September, 2015

SELECT RECORDS OF THE BOMBAY GOVERNMENT

No. XLIII.—New Series.

MEMOIRS BY COMMANDER JAMES FELIX JONES, I.N.

STEAM-TRIP TO THE NORTH OF BAGHDAD,

IN APRIL 1846;

WITH NOTES ON VARIOUS OBJECTS OF INTEREST EN ROUTE.

JOURNEY FOR THE PURPOSE OF DETERMINING THE TRACT OF THE ANCIENT NAHRWAN CANAL,

UNDERTAKEN IN APRIL 1848;

WITH A GLANCE AT THE PAST HISTORY OF THE TERRITORY OF THE NAHRWAN.

JOURNEY TO THE FRONTIER OF TURKEY AND PERSIA,

THROUGH A PART OF KURDISTAN.

Researches in the Vicinity of the Median Wall of Xenophon,

AND ALONG THE OLD COURSE OF THE RIVER TIGRIS;

AND

DISCOVERY OF THE SITE OF THE ANCIENT OPIS.

MEMOIR ON THE PROVINCE OF BAGHDAD.

NOTES ON THE TOPOGRAPHY OF NINEVEH,

AND THE OTHER CITIES OF ASSYRIA;

AND ON THE

GENERAL GEOGRAPHY OF THE COUNTRY BETWEEN THE TIGRIS AND THE UPPER ZAB;

FOUNDED UPON A TRIGONOMETRICAL SURVEY MADE IN THE YEAR 1850.

Compiled and Edited by R. Hughes Thomas, Assistant Secretary, Political Department.

Bombay:

PRINTED FOR GOVERNMENT

AT THE

BOMBAY EDUCATION SOCIETY'S PRESS.

1857.

V
954.79
sel/sel
175021

17 SEP 1993

00175021

ABSTRACT OF CONTENTS.

PAGE

STEAM-TRIP.—Journal of a Steam-trip to the North of Baghdad; performed in April 1846, in the Honorable East India Company's iron steamer "Nitocris," by Lieutenant (now Commander) James Felix Jones, I. N., with Notes on the various objects of interest met with *en route*. Submitted to Government on the 5th November 1846 1

NAHRWAN CANAL.—Narrative of a Journey, undertaken in April 1848, by Commander James Felix Jones, I. N., for the purpose of determining the Tract of the Ancient Nahrwan Canal. Accompanied by Preliminary Remarks on the Canal; with a glance at the past History of the Territory of the Nahrwan. Submitted to Government on the 11th April 1850 33

FRONTIER OF TURKEY AND PERSIA.—Narrative of a Journey to the Frontier of Turkey and Persia, through a part of Kurdistan; undertaken by Commander James Felix Jones, I. N., commanding the Honorable East India Company's Steamer "Nitocris," in company with Major (now Lieutenant Colonel Sir) Henry Creswicke Rawlinson, K.C.B., late Political Agent in Turkish Arabia. Submitted to Government on the 16th August 1848 135

RESEARCHES, &c.—Researches in the Vicinity of the Median Wall of Xenophon, and along the Old Course of the River Tigris; and Discovery of the Site of the Ancient Opis, by Commander J. F. Jones, I. N. Submitted to Government on the 16th February 1851.. .. 215

MEMOIR.—Memoir on the Province of Baghdad; accompanied by a Ground-Plan of the *enceinte* of Baghdad, by Commander J. F. Jones, I. N. Submitted to Government on the 19th April 1855 303

NINEVEH.—Notes on the Topography of Nineveh, and the other Cities of Assyria; and on the general Geography of the Country between the Tigris and the Upper Zab; founded upon a trigonometrical survey, made in the year 1852, by order of the Government of India, by Commander J. F. Jones, I. N., Surveyor in Mesopotamia 403

DETAILED LIST OF CONTENTS.

PAGE

STEAM-TRIP.—Journal of a Steam-trip to the north of Baghdad; performed in April 1846, in the Honorable E. I. Company's Steamer "Nitocris," by Lieutenant (now Commander) J. F. Jones, I. N.; with Notes on the various objects of interest met with *en route* 1

Introduction 3
Commencement of the voyage .. .. ib.
Appearance of the banks of the Tigris.. .. .. ib.
Arrival at Sheri, and El Beitha.. .. .. ib.
The mound Tel Goosh .. .. ib.
Country called "the Khan" .. .. ib.
Arrival at the Khan of Jedidah.. 4
Gardens to the north of Baghdad .. .. ib.
Visit of the Governor of Samarrah .. .. ib.
Ancient canal "Tarmiyeh" .. .. ib.
Khalis canal 5
Sindiyah; its bearings .. .. ib.
Notice of the Nahrwan Canal .. .. ib.
Alluvial deposits termed "Hawi" .. .. ib.
The river Atheim .. .. ib.
Bearings of Khan Tholiyeh 6
The small branch of the Nahrwan called "Sid el Azees" 7
Notice of the Khali Sid el Nimrud, or Median Wall 8
Observations on the state of the bed of the river after passing Khan Tholiyeh ib.
Description of the country in this neighbourhood .. .. ib.
Arrival at Qadesiyeh 9
The old fortress and city of Qadesiyeh.. .. .. ib.
Remains of the town of Istabolat 10
Arrival at El Ghaim 11
Modern town of Samarrah 12
Tombs of Imam Hussain Askari, and Imam Mehdi .. .. ib.
Notice of Imam Mehdi .. .. ib.
The spiral tower of Malwiyeh 13
Notice of the ancient Samarrah.. 14
The tumulus of Tel Alij, or the "nose-bag" mound .. .. ib.

PAGE

The Kantaret el Resasa, or bridge of lead 18
Encampments of the Shammar.. .. .. ib.
Tale of the origin of the Shammar in Mesopotamia.. 19
Village of Dur .. .. ib.
Tel Benat, or the "Girls' Mound" 20
Lime-kilns .. .. ib.
Note on the rafts now in use on the Tigris .. .. ib.
Continuation of the ascent of the river.. 22
The part of the river named the Khan.. .. .. ib.
Arrival at Tekrit .. .. ib.
Notice of the old citadel .. .. ib.
Resources of Tekrit 23
Governor of Tekrit 24
Ascent of the rapids 25
Khan Kharneineh 26
Remains of Nahr Hafu, or upper branch of Nahrwan.. 27
Appearance of the river above Khan Kharneineh .. .. ib.
Arrival at the wooding post just above the mouth of the Nahr Hafu .. ib.
Difficulties met with in the ascent of the river .. .. ib.
Determination to return to Baghdad 28
Appearance of the country .. .. ib.
Description of the descent .. .. ib.
Arrival at Samarrah .. .. ib.
Arrival at Baghdad 29
Conclusion 30

NAHRWAN CANAL.—Narrative of a Journey, undertaken in April 1848, by Commander J. F. Jones, I. N., for the purpose of determining the tract of the Ancient Nahrwan Canal; accompanied by Preliminary Remarks on the Canal, with a glance at the past History of the Territory of the Nahrwan 33

Past history of the Nahrwan territory 34
Introduction .. .. ib.
Description of the country in this locality .. .. ib.
The Nahrwan canal .. .. ib.
Note regarding its ancient names .. .. ib.
Rise and progress of the canal 35
Description of the country on its banks in the time of the Sassanian monarchs ib.
Commencement of the decline of the Nahrwan 36
Notice of the Roman and Mahomedan conquests, and their consequences .. ib.
Notice of the state of the province under the Governments of the lieutenants of the early Khalifs 37
Battle of the Nahrwan in A. H. 38. .. .. ib.
House of Abbas, and founding of Baghdad .. .. ib.
The resources of the canal during the reign of Harun el Rashid .. .. .. ib.

PAGE

Notice of the Katul and Tamerrah, the ancient names for parts of the Nahrwan 37
Baghdad and the Nahrwan under Harun el Rashid and subsequent Khalifs 38
Ctesiphon, Baghdad, and Samarrah 39
Early history of the Nahrwan and probable design in its construction .. ib.
Ardishir Bebegan, or Artaxerxes 40
Decline of the power of the Khalifs of Baghdad .. .. ib.
Timur Lenk and his Tartars in A. D. 1401 41
Different changes of dynasty .. .. ib.
Possession recovered by the Turks in 1638 .. .. ib.
Sufferings of the country during these changes .. .. ib.
Probable cause of the decline of the Nahrwan.. .. .. ib.
Present aspect of Turkish Arabia 42
The Katur or Katul portion of the Nahrwan 44
Description of the Katul, extracted from the Kitab el Akalim 46
Geological features of the country as eminently adapted for canals 47
Description of the appearance of the Canal from its commencement to Samarrah.. 48
Continuation of the description of the canal 49
The part of the canal designated the true Nahrwan 52
Description of the present state of the districts of the Katuls and Nahrwan 53
Concluding remarks 55

ANCIENT NARHWAN.—Narrative of a Journey, undertaken by Commander J. F. Jones, I. N., in April 1848, for Determining the Track of the Ancient Nahrwan Canal 55

Introductory remarks .. .. ib.
Departure from Kut el Amareh 56
Appearance of the country 57
Meeting of canals at a spot marked by a high mound called Ishan el Kut .. ib.
Description of the canals 58
Notice of the ruins of Jumbil .. .. ib.
Appearance of the tent of Sheikh Subba 59
Appearance of the country north of the mounds of Nishan el Kut 60
Ghathir el Reshadeh 61
Swamp called Suweycheh, or Bahri Ruz .. .. ib.
Description of the tract.. .. .. ib.
Ancient bed of the Mari canal.. 62
Surface of the country .. .. ib.
Tale of the powerful chief Mehdi 63
Notice of the salt stream in the bed of the Suweycheh lake 64
Sufferings of the party from want of fresh water .. .. ib.
The Mokta el Subba, or "Lion's Cut" 65
Notice of a barbarous custom among the Arabs 66
Arrival on the borders of a marsh formed by the Tigris, called Kaleh Jaad.. 67

PAGE
Old bed of a stream called Abu Chellach, the supposed point of the Nahrwan joining the Tigris.. 69
Description of the Nahrwan at Abu Chellach, or Kelleh .. .. .. ib.
The Nahr Debuni, a lateral duct from the Nahrwan 70
Halt on the banks of the Tigris .. .. ib.
Notice of the insects on the bank of the river.. .. .. ib.
Arrival at the Shaour canal 71
Mounds named Qubeht el Khiyat .. .. ib.
The Khore el Durb canal 72
The Imam Imlikh, an old tomb on the left bank of the Nahrwan .. .. ib.
Course of the Nahrwan in this situation .. .. ib.
The canal termed Shat Sheyleh 73
The Nahr Adeleh, or straight canal .. .. ib.
Journey over a plain strewed with broken bricks and pottery.. 74
The mound named Mezayrid .. .. ib.
Pass the canal called Efta el Taj .. .. ib.
Description of the surface of the country between the Diyaleh, the Nahrwan, and the Tigris.. .. .. ib.
The old palace of Anushirwan 75
Reflections on its present state .. .. ib.
Encampment of Dawer Arabs .. .. ib.
Description of the tribe.. 76
The Shammar Togh tribe .. .. ib.
The Diyaleh river, and arrival at Baghdad 77
Second departure from Baghdad .. .. ib.
The road by Gherara .. .. ib.
Appearance of the country .. .. ib.
Difficulty in travelling to the south of Baghdad 78
Formation of a caravan.. .. .. ib.
Cross the Diyaleh by a bridge of sixteen boats. .. .. ib.
Description of the locality between Baghdad and the Diyaleh .. .. ib.
The Daffafeh Arabs .. .. ib.
Description of the chief.. 79
The ruin termed Mismai 80
The town of Reshadeh .. .. ib.
Description of Mismai .. .. ib.
Angles taken from the fortress of Mismai 81
Pottery found in the plain 82
The ruins of the town of Sifweh .. .. ib.
Description of the Nahrwan at this spot .. .. ib.
Angles obtained from the ruins of Sifweh 83
Angles obtained at Kushm el Khor .. .. ib.
Arrival at Joziyeh .. .. ib.
The branch of the Nahrwan termed Chef 84
Angles taken at Chef .. .. ib.
The Tamerrah canal 85
Notice of Medar .. .. ib.

PAGE

Angles taken from the mounds of Medar 87
Description of the bed of the Nahrwan after leaving Tamerrah .. .. ib.
Daym cultivation 88
Angles taken at Sisobaneh .. .. ib.
Course of the Nahrwan 89
Ramaylat and Aberta .. .. ib.
Description of Aberta .. .. ib.
Course of the Nahrwan at Aberta 90
The Niyadat Arabs .. .. ib.
Arrival at the branch termed Abu Simsim 91
The ruin of Tel Tubbel .. .. ib.
The canal Nahr Abu Kelb .. .. ib.
The Zhareh canals .. .. ib.
The Mattalawi branches 92
Character of the Shammar Togh and Daffafeh tribes 93
Buildings on either bank of the Nahrwan at Kanatir .. .. ib.
Design of the works at Kanatir 95
Angles obtained at Kanatir 96
High mounds of Sumakeh 97
Pass a branch canal named Nahr ar Reshid 98
Arrival at the high mound Meyahh .. .. ib.
Angles obtained at Meyahh 99
Kabr Harbi .. .. ib.
Watercourse known as the Shat el Sheyleh .. .. ib.
The mounds of Qubbeht Dokhaleh .. .. ib.
Ruined mounds of Deir .. .. ib.
Description of Deir el Akul 100
Angles obtained at Deir el Akul .. .. ib.
Departure from Deir el Akul, and arrival on board the steamer 101
Departure from Baghdad to trace the main conduit north of the Diyaleh, termed Katul, or El Kesrawi .. .. ib.
Description of an overflow of the Tigris 102
Appearance of the country from Dhubbai .. .. ib.
Cross the Tabur canal .. .. ib.
Description of the party 103
The Lesser Katul 104
Appearance of the bed of the canal to the north .. .. ib.
The large duct called the Kidri 105
Arrival at El Fet'hha .. .. ib.
Banks of the canal from Kidri to El Fet'hha .. .. ib.
Arrival of a solitary caravan 106
Reflections .. .. ib.
Bearings obtained from El Fet'hha 107
Observations on the present state of the bed of the Katul el Kesrawi .. ib.
Reflections 108
Halt in the bed of the Katul close to Khan Nahrwan 109
Visit from the Sheikh of the Beni Timim .. .. ib.

	PAGE
Proceed up the bed of the Nahrwan, here called El Tyh	111
Notice of the alluvial Hawi	ib.
Angles obtained here	112
Departure from Khan Nahrwan	ib.
Angles obtained from a high Tappeh on the right bank of the Katul ..	ib.
Notice of the Sindiyeh and northern Jezani canals	113
Arrival at Nai	114
Description of the building	ib.
Angles obtained at Nai	ib.
The Beni Timim Arabs..	ib.
Arrival at Tel Heymer	ib.
Notice of the Atheim	116
The Batt canal	118
The mounds termed Dhahubeh..	ib.
Course of the Batt	ib.
The Tellul Nar mounds..	ib.
The mounds of Sathha and Mismeh	119
Encampment of Azza Arabs	ib.
Description of the tribe..	120
The barren Hamrin ridge	ib.
Point of contact of the Batt canal with the Atheim	121
Observations in this locality	ib.
Notice of the great dam in this situation	122
Observations relative to its history and structure	ib.
Tribe of Azza Arabs	123
Continuation of the journey to the west over the ridges termed Aith ..	ib.
Appearance of the country	124
The Azza and Albu Ayatha tribes of Arabs	ib.
The district of Toos and large sandhill, Moktaa el Ras	125
Dry valley termed Wadi Awad	ib.
Description of Wadi Awad	126
Arrival at Kantaret el Resaseh	ib.
Encamp in the bed of the old Nahrwan	127
Manner of passing the night	ib.
Reflections on the situation	128
Angles obtained at the Kantaret el Resaseh	129
Arrival at Malwiyeh and Khalifa	ib.
Angles obtained from Tel Alij	ib.
Ditto from the Malwiyeh	130
Notice of the Kantaret el Kesrawiyeh, or the Cæsar's bridge of the Arabic MSS.	131
Concluding remarks	133

PAGE

NARRATIVE.—Narrative of a Journey to the Frontier of Turkey and Persia, through a part of Kurdistan; undertaken by Commander James Felix Jones, I. N., Commanding the Honorable Company's Steamer "Nitocris," —in company with Major (now Lieutenant Colonel Sir) H. C. Rawlinson, K.C.B., late Political Agent in Turkish Arabia 135

Prefatory remarks 136
Departure from Baghdad and description of the party 137
The Katul canal.. 138
Continuation of the journey to Bakuba and Karastel 139
The village and canal of Shehraban 140
Appearance of the country 141
The Belad Ruz canal .. .. ib.
Notice of the defiles of Hamrin .. .. ib.
Note on the river Diyaleh 142
Arrival at Kiz'l-robat 143
Character of Kader Pacha .. .. ib.
Khanakin, Haji-Kara, and the bridge over the Holwan 144
Present condition of this part of the country 145
Departure from Haji-Kara 146
Arrival at the Caravanserai at Kasri-Shirin 147
Ruins in the neighbourhood .. .. ib.
Note relating to Khusru Parviz.. 148
Arrival at the Caravanserai, or Khan of Puli Zohab 149
Contrast between the Arab and Kurd .. .. ib.
Visits from the Jaf and Hamawand Kurds 150
Notice of the Dukkani Daud Range, and the remains of ancient cities .. ib.
The plain of Bishiweh and Taki Girrah Pass 151
Reflections on the former and present state of the country 152
Ascent of the Pass .. .. ib.
White arch of marble .. .. ib.
Notice of Mount Zagros and the Band-i Noah chain of mountains .. .. ib.
Scenery of the neighbourhood .. .. ib.
Village and Khan of Surkhi-Dezr 153
Note on the remains of a fire temple .. .. ib.
Arrival at the old fortress of Sar-mil 154
Arrival at the Kirrind gardens.. .. .. ib.
Tale of the Governor of Kirrind and the Amir of Kirmanshah .. .. ib.
The village of Kirrind 155
Character of the Kirrindis 156
Notice of the Susimani or itinerant Gipsies .. .. ib.
Ascent of the Zagros 157
View from the summit 158
Bearings taken here .. .. ib.
Descent into the Biwanij plain.. .. .. ib.
Gahwarah, the capital of the Guran country 159
Notice of the regiment of Gurans raised by Major Rawlinson ten years before ib.

PAGE
Exactions of the Amir of Kirmanshah and state of the province 159
Description of Gahwarah 160
Character of the Guran Kurds.. 161
Their religious ceremonies 162
The Ali Ilahi tribe 163
Moral character of the Gurans.. .. .. ib.
Their hospitality 165
Arrival in the plain of Mahidasht, and notice of the nomade tribe of Sinjabi ib.
Halt at a village.. .. .. ib.
Description of the Khan and his family 166
Tale illustrative of the habits of the people .. .. ib.
Continuation of the journey and descent into the plain of Kirmanshah .. 169
Notice of the lake, Sar-abi-nilu-fir .. .. ib.
Party of merchants from Kirmanshah.. .. .. ib.
Escort of honour sent by the Amir of Kirmanshah .. .. ib.
Arrival at Kirmanshah, and interview with the Amir.. 170
Notice of Kirmanshah 171
Its present state.. 172
The Kubristan, or graveyard .. .. ib.
Description of the neighbourhood of Kirmanshah 174
Departure from Kirmanshah 176
The Parrow range of hills .. .. ib.
The rock of Behistan .. .. ib.
Description of the sculptures and inscriptions of Behistan 177
Further notice of the rock of Behistan.. 178
Description of the legends in the rock in the cuneiform character 179
Description of the sculptures 180
Situation of the work 184
Description of other sculptures 186
Appearance of the locality 187
Departure for Kirmanshah 188
Notice of the Tak-i-Bostan sculptures 189
Arrival at Kirmanshah 191
Further description of the town and its inhabitants 192
Departure from Kirmanshah .. .. ib.
Arrival at the Khan of Harunabad 193
Greek tombstone.. 194
The hamlet and Khan of Harunabad 195
Arrival at Gahwarah .. .. ib.
The heights of Dalahu 196
Appearance of the country .. .. ib.
Arrival at Kileh Zanjir 197
Mir-Khassar and Zohab.. 198
Notice of the district of Zohab.. .. .. ib.
The town of Zohab 199
Encampment of Sharaf Bayenes 200
Character of their chief, Abdullah Beg.. 201

PAGE
Arrival at the Abi-Shirwan 204
Description of the Abi-Shirwan.. .. .. ib.
Passage of the Abi-Shirwan, and arrival in Turkish Territory .. .. ib.
Ascent of the hills termed Melamboo, or Nilambu 205
Arrival at Gundar and Halebjah .. .. ib.
The plain of Shahri-Zur... .. .. ib.
The mound called Yassin Tappeh 206
Arrival at Sulimaniyeh 207
Description of the town.. .. .. ib.
Character of Ahmed Pacha 208
Departure from Sulimaniyeh 209
The village of Karadagh and its Governor 210
Continuation of the journey and arrival at Baghdad 211
Conclusion 212
Table showing the elevations of certain places.. 213

RESEARCHES.—Researches in the vicinity of the Median Wall of Xenophon, and along the old course of the River Tigris; and discovery of the Site of the Ancient Opis, by Commander J. F. Jones, I. N. 215

Introductory remarks 216
Departure from Baghdad 218
The floating bridge on the Tigris .. .. ib.
Description of the party.. 220
Phlebotomy in Baghdad .. .. ib.
Arrival at Kathemein 221
Description of the town and inhabitants 222
The gardens of Kathemein 223
Arrival at the ancient canal now termed Serakha 225
Description of the materials dug from its bed.. 226
Sepulchral urns discovered here .. .. ib.
Following the course of the Serakha aqueduct, arrive at extensive ruins termed Suk 228
Hammamat, or "the baths" .. .. ib.
Arrival at Tel Goosh on the west bank of the Tigris 229
Description of a sandstorm .. .. ib.
Continuation of the march northward 231
Khan Tarmiyeh, or Suadiyeh .. .. ib.
The canal Nathriyat 232
Description of the old city Abu Sakhr 233
The Tarmiyeh lake .. .. ib.
Arrival at Walaiyat Zaheyri 234
The old town of Akbara 235
Description of Akbara 236
The tomb of Kef Ali 238
Description of the plundering Arabs infesting it 239
Continuation of the journey to Sumeycheh 240

PAGE

Description of the remains of canals 240
Reflections on the present state of the country 241
Description of the village of Sumeycheh and its inhabitants 242
The mosque of Sumeycheh 243
Visit from the Zabit of the district 244
Description of this person 245
Arrival at Al Hyr 246
Branch from the Katul al Kesrawi canal .. .. ib.
Caravan of pilgrims 247
The tomb of Syed Mahomed .. .. ib.
Description of the tomb.. 248
Cross the bed of the Shatayt .. .. ib.
Arrival at the tumulus of Tel Aabr 249
Camp of Majummah Arabs 250
Continuation along the bank of the old bed of the Tigris .. .. .. ib.
Arrival at the remains of an old city, now termed Harbeh 251
Notice of Dijeil canal .. .. ib.
The bridge of Harbeh 252
Arabic inscription on its south-east face 253
Arabic legend on the north-west face 254
Reflections on the bridge of Harbeh 255
Description of a bivouac in the bed of the Dijeil at Harbeh 256
Continuation of the journey .. .. ib.
The mounds of Al Alth.. 257
Jibbareh and the Majummah Sheikh .. .. ib.
The Izhaki canal 260
The mounds of Khayt al Abiad 261
Excursion to the other side of the Dijeil 262
Discoveries made in the neighbourhood .. .. ib.
Return to the bridge at Harbeh 267
Notice of the Majummah tribe of Arabs .. .. ib.
Arrival of a party sent by the Dellim Sheikh 269
Character of the Dellim tribe 270
Departure from Harbeh.. 271
Arrival at mounds of ruins termed Tel Dhahab and Tel Manjur 272
Description of Tel Manjur .. .. ib.
Retrospective glance at the records of historians relative to the situation of the ancient Opis 273
Reasons for claiming the position of Manjur as the site of the ancient Opis.. 280
Situation of Opis as mentioned by the ancient writers 283
Reflections on the changed aspect of the country 285
Inundations of the Tigris 288
Sprenger's translation from Masudi 289
Continuation of the journey north-east of Manjur 290
Long duct called the Ejdeh .. .. ib.
Examination of the canal.. .. .. ib.
Reflections on the changes produced by various causes in the lapse of time .. 291

		PAGE
Appendices.	A and B	292
Ditto	C to I	293
Ditto	J and K	294
Ditto	L to O	295
Ditto	P to S	296
Ditto	T to X	297
Ditto	Y and Z	298
Ditto	*a a*	299
Ditto	*b* to *e*	300
Ditto	*f* ..	301

BAGHDAD.—Memoir on the Province of Baghdad, accompanied by a Ground-plan of the *enceinte* of Baghdad, by Commander J. F. Jones, I. N. .. 303

Brief observations, forming an Appendix to the Map of Baghdad	304
Disposition of the east portion of the town	312
Disposition of the west portion of the town	336
Observations on the inhabitants, languages, and climate of Baghdad	339
A Price Current of provisions procurable in the bazars of Baghdad, with their estimated maximum and minimum prices during the year	342
Scale of Daily Wages paid to artificers, tradesmen, labourers, &c., at Baghdad	346
Table of Weights and Measures	351
List of Coins current in Baghdad	353
General remarks applicable to the province	356
Table of Caravan Journeys	363
On the tribes of Irak	369
Tribe of Shammar Togha	370
Families of the Daour	371
Family at Kut	ib.
Zobeid tribe	372
Zobeid families	ib.
Baij families	374
Arfiya family	ib.
Al Hamid family	ib.
Amareh families	375
Tribe As Seraj	376
Disjointed families	377
Ashair Beni Laam families	379
Madaan families	380
Other wandering families	381
Tribes located near the Dijeil, north-west of Baghdad	384
Tribe of Abeyd, north of Baghdad	ib.
Indiscriminate tribes	385
Horses	386

PAGE

Fragmentary portions of the zoology of Irak Babylonia; vertebrata, birds and small carnivora 389
Vertebrata, fishes of Babylonia.. 394
List of medicines, drugs, &c. procurable in the Bazars of Baghdad 395

NOTES on the Topography of Nineveh, and the other cities of Assyria; and on the general Geography of the country between the Tigris and the Upper Zab; founded upon a trigonometrical survey, made in the year 1852, by order of the Government of India; by Commander J. F. Jones, I. N., Surveyor in Mesopotamia 403

Introduction 404
Observations on the researches of Botta and Layard .. .. ib.
Position of the ancient cities of Assyria, &c. 405
Notice of the first establishment of Nimrud, Asshur, or Ninus 406
Observations on this tract of country 407
Central Assyria 408
The limits assigned to Nineveh 409
The mountain ranges of the Jebel Maklub and hill of Mar Daniel 410
Observations on the "high places" 411
The rivers of the region.. 412
The Tigris .. .. ib.
The Upper Zab.. 414
Notice of the armies of Alexander the Great and Darius .. .. .. ib.
The Retreat of Xenophon and the Ten Thousand 415
The river Zab 416
The Khasr-su 418
Observations on Khorsabad 419
Remarks on the metropolis of Assyria.. 420
Description of the capital .. .. ib.
Observations on the founding of Nineveh 421
Its extent and population .. .. ib.
Natural features of the spot 422
Remarks on the alterations in the natural form of the land by the diversions of the Tigris.. .. .. ib.
The spring aspect of the Tigris in the early ages 423
The locality viewed under the autumnal garb 424
Supposition as to the excavations for the foundation of the city 425
The dams required in the progress of the work .. .. ib.
The *enceinte* of Nineveh 427
The north wall 428
The west face of the city 429
Length of the walls 430
Area of the quadrangle .. .. ib.
The most interesting remains of Nineveh, the great mounds of Koiyunjik and Nebbi Yenus.. .. .. ib.

PAGE

The shape of Koiyunjik 431
Ditto of Nebbi Yunus 432
Observations on these eminences 433
The little fount of Demlamajeh 434
Notice of the researches of Rich and Layard 435
Observations on the identity of these ruins .. .. ib.
The tomb of Jonah 437
Observations 438
Nimrud and its topography 439
Remarks on the locality 440
Comparative antiquity of Assyrian sites 441
The Nimrud palaces 442
Regarded as the last monuments of Assyrian skill .. .. ib.
Notice of the winged Deity of the Persians as seen at Nimrud .. .. ib.
Observations of the author 443
Nimrud to be regarded with interest, whether in relation to its claim to remote antiquity or as a sacred position of a later Assyrian period .. 444
Remarks relative to the eras of Nineveh and Nimrud.. 445
Nimrud as identified with the Calah of the Bible .. .. ib.
Nimrud as at present seen 446
Observations on the geological features of Nimrud 448
Observations on the changes in the Tigris and Zab .. .. ib.
Their effects on the country 449
The site of Nimrud 451
Remains of the *enceinte*.. .. .. ib.
Ditto of the interior palaces.. 452
The great Pyramid .. .. ib.
Observations by the author 453
The village of Selamiyeh 455
Concluding observations regarding Nimrud 456
Narrative of the Nineveh survey .. .. ib.
Departure of the party from Baghdad.. .. .. ib.
Arrival at the Upper Zab 457
Appearance of the country .. .. ib.
The Nineveh plain and tumuli.. 458
Visit to the mound of Koiyunjik 459
Operations at the mound 460
Ditto at Nebbi Yunus 461
Completion of the measurement of the ancient city 462
The villagers of Beysan.. 463
Exploration of the interior of Koiyunjik 464
Description of the bas-reliefs .. .. ib.
Investigation of positions on the west of the river 466
Mosul, its buildings and inhabitants .. .. ib.
Departure for Nimrud 469
The Christian village of Kara-qush and its inhabitants .. .. .. ib.
Syrian Catholic church at Kara-qush 470

PAGE

Arrival at Khidr-Elyas 471
The Christian church at this place .. .. ib.
Arrival on the site of Nimrud 472
Operations at Nimrud 473
Observations on the scenery of the neighbourhood 475
Concluding remarks 476
Table, showing the result of the astronomical and traverse operations on the main road between the cities of Baghdad and Mosul 478
Traverses made on the journey to Mosul :—
Khan Nahrwan to Delli Abbas 479
Delli Abbas to Kara Teppeh 480
Kara Teppeh to Kifri .. .. ib.
Kifri to Duz Khurmati 481
Duz Khurmati to Taouk .. .. ib.
Taouk to Kerkuk 482
Kerkuk to Altun Kiupri .. .. ib.
From Altun Kiupri, on the Lesser Zab, the Zab el Asfal of Abul Feda, to Arbil of Alexander's campaign 483
From Arbil to Kellak, on the Upper Zab, the Zab-el-Ala of Abul Feda .. ib.
Kellak, on the Upper Zab, to Mosul and Nineveh 484
Aggregate of daily results .. .. ib.
A synoptical Table of Courses and Distances made daily between Baghdad and Mosul 485
Table of Traverses made at Kifri 486
Ditto Dur Khurmati 487
Ditto Taouk 488
Ditto Kerkur 489
Observations made at the halting stations on the road from Baghdad to Mosul 490
Table of Traverses made at Delli Abbas 491
Ditto Kara Teppeh 492
Ditto ditto 493
Ditto Altun Kiupri 494
Ditto Arbil 495
Ditto Kellak 496
Ditto Mosul 497
Ditto Ruins of Nineveh 498
Ditto Koiyunjik 499
Ditto Baghdad 500

ALPHABETICAL INDEX.

A

PAGE

Abassin 38
Abderahman Beg 210
Abdulla Beg 201
Aberta 89, 90
Abeyd tribe of Arabs 384
Abi Shirwan 204
Abi Zemkan 161
Abul Agul 82
Abu Chellach 68, 69, 70
Abu Halifiyeh 71
Abu Sakhr 233
Abu Simsim 91
Agheb canal, bearings at 300
Ahl el Mari 63
Ahweyneh, bearings at 292
Aith 123
Akbara 235, 236, 238
Akr-kuf 223
Ali Ilahis 162, 163
Al Alth 257
Al Busara, bearings at 300
Al Ejdeh 290
Al Ejdeh canal, bearings at .. 299
Al Hyr 246
Al Mansur 304, 306
Amed Pacha 208, 209
Anushirwan 108
Anushirwan, palace of 75
Apollonya 141
Appendices to Researches in the Vicinity of the Median Wall .. 292
Arabia Irak 47

PAGE

Arabs, disjointed families of .. 377
Arabs, indiscriminate tribes of .. 385
Artaxerxes 40
As Seraj Arabs 376
Ashik 14
Assyria, principal cities of .. 404
Ditto, central 408
Ditto, rivers of 412
Astronomical table 478
Atheim 5, 6, 116
Atheim, bearings at 297
Ayam el Jahiliyeh 97
Ayn-es-Safra 458
Azza Arabs .. 119, 123, 124

B

Baba Yadgar 199
Badrai 64
Baghdad .. 3, 37, 38, 303, 304, 308, 356
Baghdad, Khalifs of 40
Baghdad, east portion of .. 312
Baghdad, west portion of .. 336
Baghdad, price current of provisions at 342
Baghdad, daily wages at 346
Baghdad, weights and measures at 351
Baghdad, list of coins current at . 353
Baghdad, medicines, drugs, &c. at 395
Bakr'awa 205
Batt canal 117, 118, 119
Behistan 176
Behistan, rock of 179, 184, 186

PAGE

Belad Ruz 141
Beni Joneyd 41
Beni Timim 109, 114
Beni Laam Arabs 379
Beysan 463

C

Calah 150, 445
Caravan journeys 363
Chakha 63
Chali Batikh 262
Chali Batikh, bearings at .. 297
Chambatan 178
Char-Zabar 192
Chef 84
City of Peace 41
Ctesiphon 36

D

Daffafeh Arabs 78, 79, 90, 92
Dalahu 196
Darneh 161
Dawer Arabs 75
Daym 88, 90, 92
Deir el Akul 99, 100
Dellim tribe of Arabs 382
Demlamajeh 434
Dholöiyeh 47
Dhubbai 102
Dijeil 10, 11, 251, 255, 256
Dijeil canal, bearings at 297
Diyaleh .. 50, 77, 78, 109, 139, 142
Dukkani Daud 151
Dur 19, 20, 274
Dura 19, 274

E

Ejdah, bearings at .. 298, 299
El Dojm 5
El Fet'hha 105
El Kabbar 132
El Sidd 132
El Tyh 111
Euphrates 363

G

PAGE

Gahwara 158, 159, 195
Gamasab 178, 187
Ghathir el Reshadeh 61
Gubah 26
Gubbeyeh 476
Gufa 367
Gundar 205
Gurans 163, 202
Gyndes 35

H

Haja-Kura 144
Halah 150
Halaku 41, 305
Hammamat 228, 229
Hammamat, bearings at 293
Hamrin hills 120, 121, 141
Harbeh .. 252, 255, 256, 265, 271
Harbeh, bearings at 296
Harun el Rashid 38, 305
Harunabad 158, 195
Hawis 8, 111, 116
Heraclius 43
Holwan 144
Horses, list of 386
Howeish 4
Hyr, bearings at 295

I

Ibn Hanbal 305
Ibrahim Khanchi 211
Imam Mahomed Dur 19
Imam Imlikh 72
Irak, tribes of 369
Istabolat 10, 11
Izhaki 260, 266

J

Jarjaraiyeh 59, 69
Jebel Maklub 410
Jessan 64
Jezani canal 113
Jibbareh 257

PAGE

Suk, Upper, bearings at 293
Sulimaniyeh 207
Sumakeh 97
Sumeycheh 204, 242
Sumeycheh, bearings at 295
Surkhi-Dezr 153
Suweycheh 61, 64
Syed Mahomed 247
Syed Mahomed, tomb of, bearings at 295
Syed Saadi, bearings at 296
Synoptical table of distances made daily between Baghdad and Mosul 485

T

Tabur 102
Tahir Aga 242, 244
Taji 223
Tak-i-Bostan 189
Taki Girrah 151, 152
Tamerrah 37, 51, 85, 87
Tanzimat 361
Tarmiyeh 4
Tarmiyeh, bearings at 300
Tekrit 22, 24
Tel Aabr 249
Tel Aabr, bearings at 296
Tel Alij 14
Tel Benat 20
Tel Dahab 272
Tel Dahab, bearings at 297
Tel Goosh 3, 229
Tel Goosh, bearings at .. . 293
Tel Heymer 114
Tel Mahassil 131
Tel Manjur 272, 273
Tel Tubbel 91
Tigris 3, 225, 363, 412
Timur Lenk 41, 305
Toos 125
Traverses .. 479—484, 486—489, 491—494
Trumba 3
Turkey 136

U

Upper Diyaleh 204

W

Wadi Awad 125, 126
Waneh 238
Werka 217

Y

Yakut 42, 45
Yassin Tappeh 206

Z

Zab, Upper 414, 416
Zangani Kurds 169
Zobeid Arabs 372
Zohab 198, 199
Zoology of Irak Babylonia .. 389

LIST OF MAPS AND PLATES.

1.	Map of the Katul el Kesrawi and Nahrwan, alluded to at page 55, *et seq.*	In Pocket.
2.	Map of the River Tigris, alluded to at page 216, *et seq.*	
3.	Ground-plan of the *enceinte* of Baghdad, alluded to at page 304, *et seq.*	
		PAGE
4.	Fort of Qadesiyeh	9
5.	Modern Town of Samarrah	12
6.	Ruins around Samarrah	13
7.	Nahrwan el Kanatir	93
8.	Bed of the Nahrwan	94
9.	River Atheim	121
10.	Bundi Atheim	ib.
11.	Katul el Kesrawi	131
12.	Map of the country between Baghdad, Kirmanshah, and Sulimaniyeh	136
13.	Sketches of Ruins and remarkable points on the banks of the Tigris	216
14.	Ditto	ib.
15.	Sketch of a Boat in use on the Tigris	218
16.	Sketch of the Tomb of Syed Mahomed	248
17.	Ditto of Syed Saadi	251
18.	Northern aspect of the Bridge at Harbeh	252
19.	Eastern Arch of the Bridge at Harbeh	ib.
20.	Devices on Pottery found in ancient ruins	273
21.	Remains of ancient Sluices and Dam	283
22.	Sketch of the east face of Baghdad on the Tigris on either side of the British Residency	311
23.	Interior Court of the British Residency, Baghdad	ib.
24.	View of the river line of houses from the British Residency to Haji Selim's, Baghdad	ib.
25.	General view from the bridge to the Mehkemeh, Baghdad	ib.
26.	The steam-vessel's depôt from the west bank of the Tigris	ib.
27.	Sketch in Baghdad	ib.
28.	Tomb of Sheikh Omer Shababooddin, Baghdad	ib.
29.	Tomb of the Lady Sobeideh from the north, Baghdad	ib.
30.	View of Sheikh Maruff from the north, Baghdad	ib.

JOURNAL OF A STEAM-TRIP

TO THE

NORTH OF BAGHDAD;

PERFORMED IN APRIL 1846,

IN THE HON. E. I. CO.'S IRON STEAMER "NITOCRIS,"

BY

LIEUT. (NOW COMMANDER) JAMES FELIX JONES, I. N.

WITH

NOTES ON THE VARIOUS OBJECTS OF INTEREST MET WITH EN ROUTE.

Submitted to Government on the 5th November 1846.

JOURNAL.

THREE years having elapsed since our former ascent of the Tigris above Baghdad, and anticipating, from the early rise of the water, a more favourable season and better success than we experienced before, arrangements were made accordingly for ascending the river early in March 1846, but the presence of the vessel being again required at Basra, our departure was delayed until the 2nd April, when the river had become considerably more rapid from the high rise having already set in. We, however, left Baghdad on the above day, with one month's provisions, twelve tons of coal, and nine tons of firewood fuel. Draught of water with the above stores on board, 3 feet 10 inches aft, and 3 feet 5 inches forward. Weighed from our moorings at 9.55 A. M. with two boats in tow, and, passing through the Bridge of Boats, reached Trumba and Kathemein ; the former at 10.35, the latter at 10.55.

The banks of the river at this time present a beautiful appearance, the gardens exhibiting a diversity of trees of variously-tinted foliage, and a delightful fragrance pervades the air from the now opening orange blossoms. The day is cool and pleasant, but a moderate north wind, though very refreshing, somewhat retards our progress. The river too is rising. At 1.45 arrived at Sheri; at El Beitha, on the right bank, 2.33. Tel Goosh,* a mound on the right bank, bore west. The country to the north of Tel Goosh, between Khan Suweidiyah and the river, is known by the same name as the Khan, but the Khan is also sometimes termed

* Several mounds and lines of canals exist in this neighbourhood, according to Baillie Fraser. Mr. Ainsworth conceives that he has discovered in them the site of the Sitace of Xenophon; Major Rawlinson, however, deems the present suburbs of Baghdad on the west side of the Tigris to stand on a part of the ancient Sitace; indeed, the recent discovery of large masses of brickwork on this spot, bearing the Babylonian cuneiform character, in October last year, when the river was lower than it was ever remembered to have been, would seem to identify it as the site of some very large city. The great extent of the ruins, the size of the bricks, the great depth at which they are found (24 feet below the surface of the soil), justify, in my opinion, Major Rawlinson's conclusions ; and, above all, the cuneiform characters on each alternate layer of brick point out clearly the pains taken in the construction of the buildings, rendering the supposition that they had been brought originally from Babylon highly improbable.

Tarmiyeh, from a lake situate in an old bed of the Tigris called Sh'taitha. This is now dry, and is reported to be of the same width as the present river.—5 P. M., Khan Suweidiyah bore west, and Jedidah ENE. Many mounds of considerable size are to be seen south of Khan Suweidiyah, probably the Tel Kheir of Lynch's map, but I searched in vain for the south end of the Sh'taitha* (or, as it is misprinted in Arrowsmith's copy of Lynch's map, the Shat Eidah), which is represented to join the present river near this spot. I am informed, however, that it is lost in the Desert near this. Arrived at the Khan of Jedidah at 5.3, but finding the stream very rapid near it, proceeded on for twenty minutes and anchored near the old Khan of the same name. Strength of the current where we are at anchor was found two knots and a half per hour, though a few hundred yards lower down it probably amounts to double this rate.

The gardens to the north of Baghdad terminate abruptly about two miles above Kathemein on the right bank, but on the left, after leaving Moudhem, scattered villages and date-groves are seen as high as Tel Goosh, from whence to Jedidah the country, at present, is highly cultivated with wheat and barley.† On both banks, mud enclosures are met with every two or three hundred yards, in which the cattle used for the purposes of irrigation are kept, and numerous round isolated towers, affording shelter to the cultivators from marauding parties, attest the imbecility of the present Government. The old adage, of the sword in one hand and the plough in the other, is here literally verified.

Received a visit this evening from the Governor of Samarrah, who has been summoned to Baghdad on business, but has obligingly given me a letter to his Vakeel.

April 3rd, 1846.—Left our anchorage at 5.38 A. M., the river having risen during the night eight inches, with a cold northerly wind. Therm. 43°. Passed the villages of Howeish and Munsuriyeh, the former at 6.40, the latter at 8.15, when it bore east. On the right bank and west of Munsuriyeh, the Tarmiyeh ancient canal leaves the Tigris, and another large canal, bearing the same name and said to be of more ancient date, is seen about one mile and a half below. This has now been long dry, but the northern canal, during the high state of the river, still receives a portion of the Tigris, and is lost in the marshes west of Kathemein. Its direction by compass was observed to be 244°. The river near Munsuriyeh is very broad, but broken by islands. A Khiyut,‡

* Could this name, although at present an Arabic term signifying the "old river," be a corruption of the early Arabs from the name of the town or district of Sitace?

† The land adjoining Jedidah, Howeish, Munsuriyeh, Sadiyeh, and several other villages, although washed by the Tigris, is irrigated by cuts from the Khalis canal.

‡ This is represented as resembling the Khali Sidd el Nimrud, or Median Wall, in construction. It is stated to run in a SW. direction, and to be lost in the marshes near Akr-kuf. I think it

or wall, is situate a little to the north of the upper Tarmiyeh, having an old Khan in ruins close to it.—9.11, passed Saadiyah village and grove of date-trees; the country every mile becoming more elevated, and the valley of the Tigris beginning to assume a distinct form. Reached the village of Sindiyah at 10.33, and received twelve hours' fuel. Remained here until noon, to obtain observations which place the village in lat. 33° 52′ 50″. The whole of the gardens and date-groves from Jedidah to this place are irrigated by the Khalis* canal, which and the Dijeil are the only canals of importance that the Pachalic can now boast of. A sad picture for contemplation is afforded by the remains of so many noble works of the same order lying scattered around, neglected and abandoned, showing at a glance, without the aid of history, the once flourishing state of this classical province.

Left Sindiyah at 12.10 P. M., and at 1.35 observed it to bear 137°. At this spot the high cliffs forming the valley of the Tigris abut on the left bank of the stream, and the large canal (Nahrwan) is seen above them about one mile and a half distant, trending to the south-eastward. From this point the river runs in a more westerly direction; and at 3.10 passed some high cliffs (assumed at 50 feet), on the summit of which a part of the Nahrwan is observed to have been cut away by the force of the current encroaching on and undermining the soil on which it stands. The cliffs forming the right bank of the river are distant from this spot about five miles. A long alluvial Hawi† projects from them to within a hundred yards of the left bank. This space only is now occupied by the river. The tomb of Imam Syed Mahomed bears from this point 262°. This also is the general direction of the river to the mouth of the river Atheim. The Nahrwan is also known here by the name of El Dojm.—3.35, anchored off a small branch of the Atheim to obtain observations.‡ The western branch is larger, and is two miles distant

very probable from the information obtained, that many walls of the same description as that, *par excellence*, termed "the Median," will be found to exist in this part of the country. The term Khiyut, or "lines," is here universally employed for "ramparts or walls," and differs materially from that of Nahr, adopted in reference to canals. The Khali is, however, the longest and most northerly, and therefore the most important.

* This canal is a cut from the Diyala where it breaks through the Hamrin Range. It pursues a SW. course a short distance north of and nearly parallel to the river Diyala. Many villages are situated on its banks, and numerous fine date-groves are watered by it in its course to the Tigris, which receives its superabundant waters after a severe winter only, at other times it is lost in irrigating the country around Sindiyeh, Munsuriyeh, Howeish, and Jedidah.

† Alluvium deposits in the valley of the Tigris are thus styled.

‡ The western or larger mouth of the river Atheim is 7′9″ west of Baghdad by these observations. Its sources are in the Seghirmeh range of Kurdish mountains. The Kisseh Su at Kerkuk, the stream at Tank, and the Sefid Rud unite their waters in about lat. 34° 40′ north, and in the meridian of Baghdad, from whence, under the name of the Atheim, it pursues a course a little to the westward of south through the Hamrin Range, and finally falls

from this. It now appears a considerable stream, but when I passed it in March 1843, it deserved little notice, but the heavy rains, experienced this winter throughout the Pachalic, have increased its importance. After passing the Atheim the river becomes more tortuous, a long reach extending to the SW. leads you to an opening of considerable extent, which, I am told, is the mouth of the Sh'taitha, and supposed to be the old bed of the Tigris* (see note at p. 4); we passed it at 6.15, and stood towards Khan Tholiyeh, in a northerly direction. Anchored for the night at 6.32, near two islands which here bisect the stream.

The alluvial soil now gives place to banks of pebbles and shingle, occasionally mixed with conglomerate masses, but the high cliffs still exhibit alluvium mixed with many strata of sand, and in some places red clay. A salt stratum is observed near the present margin of the stream, in which sprigs of the tamarisk flourish, but the rest is bare and much eroded, not only by the Tigris, but from the numerous torrents that find their way from the high lands contiguous to the Hamrin range. The Hawis, or alluvial deposits, formed in the valley of the Tigris, are now in a high state of cultivation. Obtained observations both for longitude and latitude, the latter, deduced from the meridian altitude of Antares, was found to be 34° 00′19″ N.

Sunrise, April 4th, 1846.—From the masthead observed the true bearing of Khan Tholiyeh to be N. 00° 45′ W. At the same time the following angles right and left of it were taken by sextant: ∠'s right, high peak of Dalahu on the great Zagros Range, 14° 25′; ∠'s left of the Khan, minaret in the village of Beled on the Dijeil, 87° 32′; Malwiyeh, or spiral tower above Samarrah, 53° 16′; tomb of the Imams in Samarrah, 55° 54′; Khan Mazrakji, 63° 21′; Imam Syed Mahomed

into the Tigris in lat. 34° 00′ 30″. Where the Atheim breaks through the Hamrin, the remains of a strong "Sidd" exists, of great antiquity. This "Sidd" formerly blocked up the natural course of the stream, diverting it into two ancient canals, named the Nahr Batt to the north, and the Nahr Rathan to the south. These canals irrigated the country between the Hamrin and the Nahrwan, and contributed materially to swell the waters of the latter.

There can be little doubt but that the Atheim is the Physcus of Xenophon. But the position of its junction with the Tigris in the days of the learned Greek must be sought for, I think, to the south of its present confluence. A line carried south a little westerly from the present delta of the Atheim to the dry bed of the Sh'taitha, would, in all probability, not only mark the site of its former confluence with the Tigris, but might pass over, or near to some extensive ruins in which might be traced some features that would identify them with the lost Opis.

* Both Dr. Ross and Captain Lynch placed the northern mouth of the old bed of the Tigris about twenty miles further to the westward, but I am assured, from very good authority, that its true position is where I assigned it. There may, however, have been a branch further to the westward, and it is hazardous to differ with two such observant travellers as those I have quoted, but the nature of the soil changing from hard sandstone to alluvium in this vicinity, it is natural to infer that a deep and rapid stream like the Tigris would select the first yielding soil it met with, for a bed to convey its pent-up waters to the sea.

subtended an ∠ of 43° 34′ left of Beled, and the minaret of Sumeichah village 52° 9′ left of Syed Mahomed. From this station* the mouth of the old bed of the Tigris, or El Sh'taitha, bears S. by E. one and a half mile distant, which would make the bottom of the reach south of Khan Tholiyeh in latitude 33° 59′, nearly; consequently, if my latitude be correct (which I have no reason to doubt), the delineation of this part of the river in Lynch's map is scarcely carried far enough south. It is difficult, however, to speak with certainty, as the map in my possession is on a very small scale, deduced by Arrowsmith from Lynch's original of twelve inches to a degree.

Captain Lynch's fixed stations are, however, very accurately determined. During the night the river rose eight inches, occasioning the banks to fall in with loud reports. Thermometer 42° at day-break.

Left our anchorage at 6.9 A. M., and crossed over to the Hawi on the left bank, and received some fuel. Completed at 9.15, and pursued a northerly course towards Khan Tholiyeh.† I may here mention a trait of Arab rapacity and general character. Some of the Jebour had been assisting us in carrying our fuel, and I presented them with some ball cartridge in return; scarcely, however, had they reached the party to whom they were to have been presented, when one and all made a general scramble. The person to whom I entrusted them, finding it now impossible to distinguish those who had earned the cartridges, threw them down, and such a scene ensued as could only be told by any unfortunate traveller who might fall into such hands, as assuredly his garments, or any other property he might possess, would be thus contended for. Swords were drawn, and sticks of no ordinary dimensions whistled through the air, and when we left the excitement appeared as if it would last the entire day.

The stream is now becoming more rapid from increased declivity of its shingly bed, as we approach the neighbourhood of Khan Tholiyeh; our progress, therefore, is proportionally slow. At 9.50 the Khan bore NE. one mile and a half. From this the river pursues a westerly direction to Khan Mazrakji, and from thence to El Ghaim,‡ a little more northerly. At noon, Beled on the Dijeil bore 182°; Tholiyeh Khan, 89°. At 1, a tomb in the body of Nahrwan, called Imam Syed Hussain, bore north one mile and a half distant. A small branch of the Nahrwan is also called here Sid el Azeez.§ At the above time Beled

* Observations (for longitude) of *α* Orionis place this station 11′ 16″ west of Baghdad, and as Khan Tholiyeh bore north, it also lies on the same meridian.

† A Caravanserai on the road to Samarrah from Baghdad.

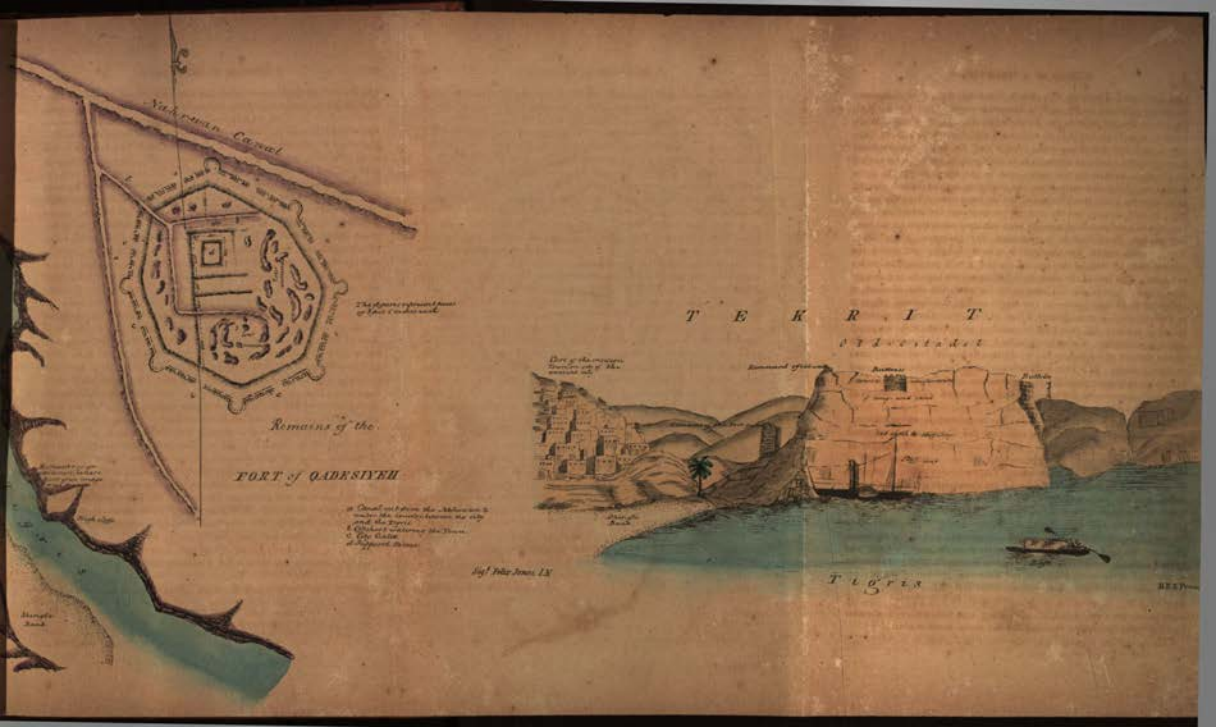
‡ Properly El Kaim, but is pronounced as I have written it.

§ This is the south branch or feeder of the Nahrwan. It is now much broken by the encroachments of the river. I have throughout erroneously termed the branch at El Ghaim the south branch.

bore 169°, and Tholiyeh 99°; Khan Mazrakji, a place of accommodation for pilgrims, on the road to Samarrah north, and at 4 P. M. N.E. This is the nearest point to the Khali Sid el Nimrud, or Median Wall. I visited it in 1843, but it is so well fixed and described, both by Captain Lynch and Dr. Ross, in the Journals of the Royal Geographical Society, that I need not further allude to it.—5.45, came to an anchor for the night in exactly the same spot as we spent the night three years ago. I was not sorry when the declining rays of the sun obliged us to stop, for I felt much fatigued, having been on my legs the whole day; indeed, nothing but the greatest perseverance and attention to the steerage of a steam vessel through such intricate navigation as we have had to-day, could ensure her making any progress. From Khan Tholiyeh the bottom has changed to a hard shingle, over which the current runs, by trial, at the rate of six and a half geographical miles per hour. The bed of the river is full of numerous islands and shingle flats, and as there is, in this season of the year, but one channel of sufficient depth which receives the whole stream, it occasions, where it is thus confined, a considerable fall or rapid, some of which, notwithstanding a heavy SE. wind set in enabling us to make sail, we could scarcely surmount. The engines, indeed, appear to be paralyzed when on the summit of a rapid, as the revolutions decreased from twenty-nine to twenty-three. This I can only account for by the weight of the vessel in her ascent, acting against the momentum of the paddles; in fact, the small diameter of the wheels is not calculated to lift as well as to propel the vessel up an inclined plane.

The country passed through to-day has been beautiful in the extreme. The undulating hills forming the valley of the Tigris are now clothed in their spring garments, waving grass, intermingled with flowers of every hue, forms a rich landscape, which the eye is unaccustomed to meet in the alluvial plains below. Perpendicular cliffs, composed of masses of conglomerate laid bare by the abrasion of the stream, seeming to threaten the destruction of the vessel, should they fall, are happily contrasted with their carpeted summits. The Hawis of alluvium, projecting from the various points of the valley of the Tigris, are highly cultivated by the Jebour Arabs on the east and Mahjamma on the west. Obtained the following bearings and angles from the masthead when at anchor: true bearing of the Malwiyeh near Samarrah, 328°; El Ghaim,* at the head of the south branch of the Nahrwan, 19° left of the Malwiyeh; tombs of the Imams at Samarrah, 3° 20′ left; Khan Mazrakji right, 110° 40′ SW.; angle of the old fort of Qadesiyeh left, 15° 33′. Shortly after sunset the south wind fell, and heavy rain followed with thunder and lightning, but before morning the sky again became clear.

* See the last note in the preceding page. This I have erroneously termed the south branch, instead of the one referred to in p. 7.


Nahrawan Canal
Remains of the
FORT of QADESIYEH
TEKRIT
TIGRIS

At sunrise on the 5th resumed our route, contending against a heavy stream of six knots an hour, and occasional slight rapids in the narrow channels. Reached our fuel at Qadesiyeh at 7.48.

While taking in wood I visited the remains of the old fortress and city of Qadesiyeh,* situate about one mile from the river. I never had so agreeable a walk. The country is literally covered with wild grass of every description in full blossom, flowers of every tint and hue were crushed beneath our footsteps, and the very air was impregnated with their odour. It is of an octagonal form, with round towers at each angle, between which sixteen buttresses or bastions are placed, thirty-seven paces† distant from each other. A gap exists in the centre of either side, which, no doubt, held the gates of the fortress, but all traces of them are now gone. The wall by measurement was originally 50 feet in thickness, and is at present about 25 feet high. Its interior face must have comprised an entire range of vaulted chambers, one of which is still entire and affords a good specimen of the whole structure. It is built of sun-dried clay bricks, 18 inches square and 5 thick. No buildings at present exist within its area, but on minute examination, at one-third the distance across the interior from its western side, I discovered the traces of a wall, which extended from the southern ramparts, in a line due north, for 1,240 paces. This line of wall, at the distances along it of 700 and 790 paces, and at its termination, had other walls connected with and extending from it, at right angles or due east for 450 paces, where they break off abruptly, for I could trace them no further. A perfect oblong enclosure, of 250 paces long from north to south, and 100 broad, occupied the space between the northern parallels. A high mud rampart appears to have surrounded the town, leaving a space between it and the outer defences of 70 feet wide. The great canal of the Nahrwan is seen stretching far to the eastward, and passing within 200 yards of the NE. angle of the fort. A canal, or cut from the Nahrwan, about one mile NW. of the city, watered the country between it and the Tigris, and ran along the west face of the fortification, throwing out a branch in a SSE. direction at a short distance below its junction with the Nahrwan. This offshoot entered the fort at its NW. angle, and ran in a SSE. direction to the angle of the city wall, where it bifurcated, one branch passing along the north face of the city, while the other, running parallel with the western wall for

* Vide annexed rough Plan.

† Fraser, in his Mesopotamia and Assyria, describes the distance as 10 to 12 yards. How he has fallen into this error I am at a loss to conceive. If his distance were correct, the circumference of the walls of this large fort would be, in round numbers, but 1,400 yards, whereas, from actual measurement by pacing, I made its diameter alone 1,500 yards; its circumference, therefore, as a regular octagon, would amount to nearly 4,500 yards, or above two and a half English miles.

640 paces, suddenly turned to the east, through an opening in it. After supplying the town, I presume, both this and the northern branch must have been employed in irrigation. It is probable, indeed, that the whole space between the walls of the city and the outer defences contained gardens, for no mounds of any size or extent are to be met with, which could lead us to conclude that buildings of any importance existed there.

From the SW. angle of Qadesiyeh* observed the following bearings: Malwiyeh tower, 328°; Khan Mazrakji, 97°; Ghaim tower, 307°; Istabolat ruins and mouth of the Dijeil canal, 267°. There can be no doubt, I imagine, that this city was one of importance during the flourishing period of the Nahrwan, and probably owes its decline and subsequent abandonment to that vast canal being allowed to fall into decay. A small oblong enclosure, termed El Sanam, existed too on the summit of the cliffs, now washed by the Tigris, but half of it at present remains, the river having swept the remainder away; the walls, however, on the face of the cliffs, are plainly distinguishable, and, unlike Qadesiyeh itself, are built of fine kiln-dried bricks, but bear no inscription or characters. The lower half of a statue (whence its name) of black stone, similar to those of Egypt, was found here some years ago, and is now in the possession of Dr. Ross. Lat. of Qadesiyeh, by a mercurial observation of the sun, 34° 4′ 38″.

On the high land forming the western valley of the Tigris, and immediately opposite or due west of Qadesiyeh, the remains of a neat square town of some extent are met with. It is called Istabolat. The streets and buildings can be traced by a multitude of mounds and broken brick walls in well-designed order, running parallel to and at right angles from each other. A ruined wall of kiln-dried bricks and a ditch surround it. I had not time to visit this interesting spot, but the note here given is from memory, having previously examined it in 1843. The Dijeil† canal leaves the Tigris close to this. The northern and more ancient mouth is now dried up. This canal pursues a SE. direction, and, passing the end of the Median Wall, the villages of Harbah and Sumeichah, is finally lost near the Tarmiyeh water. The country is now considerably more elevated.

* Qadesiyeh is 26′ 27″ west of Baghdad. Mr. Rich, in his Kurdistan and Nineveh, quoting from Gibbon, imagines this to be the Assyrian city of Cadesia; but Colonel Taylor, a profound Arabic scholar, deems it the site of an early Arab town. Mr. Fraser, in alluding to it in his Mesopotamia and Assyria, wrongly terms it a heptagon instead of an octagon, and has unaccountably placed it on the west side of the Tigris, whereas it is on the east bank. I presume him to have confounded Itabolat, which is on the west bank, with Qadesiyeh, though his description in other respects certainly appertains to the latter. See his work, p. 159.

† The Dijeil and the Khalis are the only canals of importance now existing in the Baghdad Pachalic. They exhibit a lamentable contrast with the numerous catalogue of antiquity.

Having obtained the noon observation, continued our course at 12.15, passing the head of the Dijeil and Istabolat, and at 12.45 El Ghaim,* a solid quadrangular tower situated at the head of the south branch of the Nahrwan. It is certain that this magnificent canal had two large branches from which it received its supply of water, and by some it is imagined that a smaller canal, called the Nahr Hafu, having its mouth at the foot of the Hamrin Range, where it is severed by the Tigris, might be called a third. The Nahr Hafu, however, is much smaller than the other two branches. It joins the centre one near the Kantara el Resasa,† from whence this main branch pursued a SE. direction, meeting the branch from El Ghaim, which flowed in a more easterly direction a little above the junction of the Atheim with the Tigris. From this spot they became one united stream, considerably more elevated than the surrounding country, and, pursuing an uninterrupted course to the south-eastward over the Atheim, the Diala, and the present bed of the Tigris, it formerly fertilized the immense plains of Irak by its many ramifications to the neighbourhood of the Persian Gulf. An opening‡ to the south of El Ghaim, I have since heard, is a duct of this splendid work. In March 1843 I visited the spot marked out as the junction of the two larger branches, where the remains of a Sidd or "band" still exist. A town must also have stood on this site formerly, for the ground was strewed with the remains of buildings, glass, and pottery. Opis§ is represented by some to have occupied this position, but I hardly think that opulent city could have left no further traces of its existence than the insignificant remains to be here met with at present.

From El Ghaim to Samarrah the ascent of the river is very difficult. The fall or inclination of the surface of the stream is plainly distinguishable to the eye; opposite to El Ghaim a single fall took us forty minutes to overcome, and I fear, had we not been assisted with a westerly wind which enabled us to make sail, our further progress would have been stopped.

Reached Samarrah,‖ April 6th, at 7 A. M., and remained until 9.35 to

* See note, p. 7.

† This gigantic canal has long since fallen to decay. It can still be traced for three hundred miles, and the ruins of former cities, met with on its margin, attest the flourishing state of Irak during its existence. Vast swamps and extensive lakes, in all probability originally caused by its own decline, surround it in every direction, converting this once luxuriant and highly cultivated province into hot beds of malaria and fever. Its dry bed is now used as a high road by travellers and caravans, on account of the protection afforded in the recesses of its mutilated banks from any of the numerous parties who may be out in search of plunder.

‡ Sid el Azeez. See note, p. 7. § See note, p. 7.

‖ In the ninth century Sumere, or Samara, became, with a slight change of name, the royal residence of the Khalifs of the house of Abbas.—*Gibbon*, vol. iii. p. 225.

The Roman army under Jovian encamped here, after marching and fighting a long summer's day.—*Ibid.*

arrange about our fuel. I did not, however, receive any more on board as the vessel is already much too deep, purposing to use coal to the next station at Dur, when the fuel we have at present on board is finished.

The modern town of Samarrah, situate on the cliffs forming the left bank of the Tigris, is now encircled by a strong wall built at the expense of the influential Shiah population of India. When I visited it in 1843 this wall was just begun. The town was before open, and suffered much from the demands of the Bedouins. They used to encamp outside, and threaten to pillage the place if their demands were not complied with. It, however, is now secure and free from such visits. But a great oversight has been committed in not extending the walls to the margin of the cliffs overlooking the river, for the Bedouins could at any time destroy the aqueduct which conveys the water to the town, and thus, by cutting off the supply of this necessary article, compel the inhabitants to come to terms. It is, however, on the whole, a miserable town, and owes its importance chiefly to two handsome tombs,* surmounted by cupolas; the larger being that erected over the remains of Imam Hussain Askari. It has recently been repaired, and, I believe, was formerly covered with gold similar to the cupolas of Kathemein, Kerbella, and Nejaf, but is now perfectly white, the present funds not being sufficient to give it its former splendour. The smaller cupola, or that of Imam Mehdi, is a very neat cupola, beautifully enamelled with yellow and white flowers, on a bluish-green ground. Imam Mehdi was the last of the Imams, revered by the Shiahs, and is said to have disappeared from the earth at this spot. A large hole, over which this edifice is erected, points out the locality, and from which, it is believed, he will at some future period present himself. It is therefore much venerated by Mahomedans, especially by the Shiahs. Pilgrims† from all parts of Persia resort to this place annually. I am informed that 10,000 is the yearly average of the number of devotees to this sacred spot, but am inclined to believe this amount is even now under-estimated. No tax is here levied on the pilgrims, but the proprietors of the Khans and houses in which they reside pay to Government two Riego Piastres for each individual. The modern town comprises about 250 houses, with a Sunni population slightly under 1,000, who possess among them barely 100 stand of arms. The town is farmed by Government this year to the present Zabit, Seid Hussein, for 2,80,000 Riego Piastres, or a sum nearly equalling to £660 sterling.

* See Sketch accompanying these notes.

† Since the occupation of the holy cities of Kerbella and Nejaf by the Turks in 1843, the influx of pilgrims into the Baghdad Pachalic has much decreased. The security afforded at present by the mild government and toleration of Nejib Pacha will, however, soon restore the confidence of the Persian devotees, and, moreover, materially add to the annual revenue of the province, which diminished considerably after the supposed ill-timed policy of the Pacha.

Geographed in the 4th Edition of Jamma Ashar
Bombay Feb. 1837.

Modern Town of Samarrah on the Tigris above Baghdad.
with part of the ruins of the ancient city.

a. Malwiyah - 163 feet high. b. Tomb of Imam Hussein Askari. c. Cupola of Imam Mehdi.

The Vare ground consists of mounds of ruins broken bricks pottery and scoria strewed in every direction.

Rough bird's-eye Sketch
of the
Ruins around the Modern
TOWN OF SAMARRAH
Taken from the top of the Malwiyeh
by
J. F. JONES
Signed J. F. Jones

To the north of the modern town, about half a mile, a curious spiral tower is situated. It is called the Malwiyeh.* Ascertained its height to be 163 feet, as near as possible. From its summit a fine view of the extent of ancient Samarrah is obtained. Heaps of bricks, glass, pottery, and scoriæ are strewed in every direction, and the alignments of many edifices are plainly distinguishable from this commanding position.† The former town is said to have been watered by a tunnel cut under ground, having its mouth in the neighbourhood of the Hamrin. Traces of this tunnel are still to be seen in the remains of wells (named Kannats or Khairees) descending into it. Both the Malwiyeh and the remains of an oblong building (the Jamna or Medresseh) close to it are built of fine bricks, with a neatness not to be equalled in the present day. The Medresseh is about 810 feet in length and 490 broad, having twelve buttresses between the corner bastions on its NW. and SE. faces, and ten on its NE. and SW. sides. The great entrance faces the Kebla, and shows at once its Mahomedan origin. A fountain appears to have existed in the centre of its area. The walls at present are about 30 feet high, and on the SW. side the remains of Gothic windows are discernible. To the NNW. of the Malwiyeh, about two and a half miles distant, are the remains of the Khalifa, or palace of Motassem, the eighth Khaliph of the Abbasides.‡ The entrance is now all that is left standing. The ruins around occupy a large space, and have vaulted chambers beneath them. Many an idle tradition is attached to these subterranean apartments by the Arabs, and, moreover, Beckford's Vathek owes its origin to this locality. During our visit to it in 1843, we descended into the vaults by means of a rope and block, much to the dismay of the frightened natives, who would not trust themselves near the spot, but awaited the termination of our enterprise with a superstitious dread. They firmly believe that a lion has chosen this place to hold his court in, and when we again made our appearance on *terra firma* scatheless, they thanked God for our deliverance. The vaults are of some extent, and are cut out of the limestone rock, but have brick roofs. A few scraps of old and much-rusted iron, and a fathom or two of decayed rope, rewarded our labours.

* See sketch of this tower and the modern Samarrah, with a bird's eye view of the surrounding ruins.

† A spiral road on the outside of the tower conducts to its summit. Fraser, in his description of this tower, states the existence of a staircase in the interior of the building. I think, however, he is in error, as I deem it, from close scrutiny, a solid mass of brickwork. Large holes, similar to those observed at the Birs Nimrud and the Mujelibi, perforate the pile at right angles, but for what purpose, unless for ventilation, I am ignorant. All the Babylonian ruins, indeed, are thus pierced through, and the architect of the Khalifs, in this peculiarity, appears to have copied the more ancient models.

‡ He quitted Baghdad on account of the rebellious disposition of its inhabitants.—*Note in Rich*, vol. ii. p. 251.

The site of the ancient Samarrah was undoubtedly well chosen. The broad and rapid Tigris bounded it to the west, the main branch of the Nahrwan, extending from the Kantarat el Resasa to the river Atheim, on the north; and the south branch of the Nahrwan, extending from El Ghaim in an easterly direction to its junction with the north branch, on the south; thus enclosing a triangle of rich land, whose longest side was thirty-five English miles, and the remaining two twenty miles in length. Many towns occupied its area, and the numerous canals, offshoots from the great Nahrwan, crossing it in a diversity of lines, attest its former fertility. At this time not a blade of grass or a single tree breaks the monotony of the extensive view from the top of the Malwiyeh. A death-like silence prevails around the fallen city, interrupted only by the howling of a jackal, which has just issued from some of its deserted vaults.

W. by N. of the Khalifa, and on the undulating mounds forming the right boundary of the valley of the Tigris, another ruin, apparently of the same order and date, is seen. The buttresses, which are met with at regular intervals along the wall, are partly standing, giving to the whole ruin, when viewed at a distance, from whatever quarter, the resemblance of a group of pillars. These buttresses are circular or square pedestals, and are neatly built of fine brick work. It is called Ashik, or the "Lover." Some high mounds about half way between the Khalifa and Ashik, or nearer the latter, in the valley of the river, mark the site, I think, of some very old ruin (probably Babylonian), of much earlier date than that above mentioned. The Arabs, however, call them Mashuk, or the "Beloved," and a bridge over the Tigris is said formerly to have connected them with Ashik, notwithstanding which tradition assigns to this place a tale, similar to the well-known but doubtful feat of the Leander of Hellespontic notoriety.

About four miles north of the modern town of Samarrah, a high tumulus stands on the plain. It is called Tel Alij,* or the "Nose-bag

* This highly curious and interesting mound, in all probability, marks the site of the "Ustrina," or pyre on which the body of the Emperor Julian was burnt previous to the removal of his ashes to Tarsus.

We learn from Gibbon, in his Decline and Fall, cap. 24, that the Roman army under Julian wandered many days to the east of Baghdad, and afterwards counter-marched in the direction of the Tigris; that the emperor received his mortal wound and died within a day's march of Samarrah, and that his body was embalmed amid a scene of terror and distress. We are informed also that Anatolius, Master of the Offices, and the personal friend of Julian, with three tribunes, met their death on the same day; that the army, after having elected Jovian Emperor, resumed its route at the next dawn in the direction of the Tigris, and, after marching and fighting a long *summer's* day, encamped in the evening at Samarrah. On the next day, the second after the death of Julian, it appears, the Roman legions remained encamped at Samarrah, as, instead of being harassed on the march, the Persian troops attacked the camp, which was pitched in a sequestered valley. On the evening of the third day, it is related, the Roman

mound," and is said by tradition to have been raised by some former ruler ordering his troops each to bring the nose-bag of his horse full of earth for this purpose. It exactly resembles the tumuli to be met with in Syria, and in the plains of Shirazoor near Suleimanieh.

army encamped at Carche (vide note at p. 18), tolerably secure from assault in the protection afforded by the lofty dikes of the river; and that, on the fourth day after the death of Julian, they pitched their tents at Dura (p. 19), where they remained a considerable time, occupied in vain attempts to cross the Tigris; and, finally, accepted, after four days' negotiation, the humiliating conditions of peace.

The circumstances attending the death of Julian and the subsequent marches of the army to Dura are here so clearly related, that any one, conversant with the geographical detail of the country between Samarrah and Dur, would trace at a single glance almost every footstep of the worn-out and incessantly exposed legions. It will be seen, therefore, that the site of Tel Alij (see accompanying Sketch) must have been the very ground on which the army encamped on the second day after the demise of the Emperor, and it is presumed that the act of encamping, under such circumstances, was one of duty and not of choice. The heat of a Samarrah summer cannot have materially changed since the time of Julian; the interment or burning of the dead, therefore, within thirty-six hours was imperatively necessary. The reason for embalming his body, I conceive, was only compliance with universal custom (vide Digest xiv. tit. 3, sec. 5, § 8), or for the purpose of enabling it to accompany the army until the passage of the Tigris was effected, when, comparatively secure, more time would have been afforded them for performing the sacred rites, than in the presence of an active enemy. But the insufferable heat, if such was the intention, I conjecture, prevented its execution, and caused either the interment of the body or its reduction to ashes on this very spot. The delay had already been extended to its furthest limits, for the time above stated is the utmost that can be accorded to the non-interment of the dead on the sultry plains of Irak or Mesopotamia; the army therefore, was compelled to encamp for the performance of the inviolable rites of the *funus publicum* over the corpse of the departed Julian. This may reasonably, I think, be inferred, for any delay, otherwise than on an occasion like the present, would not have been resorted to in the distressed position the army then occupied, and, moreover, at such times, we are informed, a total cessation from business was enjoined (called *Justitium*), which was usually ordained by public appointment. The soldiers were then freed from their military duties even (Tacit. Ann. i. 16, ii. 82; Liv. ix. 7), and in this case, no doubt, enjoyed a repose they had long been strangers to.

It may be said that the act of embalming the body on the night of his death implied its removal into the Roman territories, but it can hardly be supposed that such an idea was ever contemplated by a famished army surrounded and harassed by barbarians at every mile, and amid such distress as, Gibbon states, shortened the moments of grief and deliberation, even did the fierce heat permit such a proceeding.

The circumstantial detail, however, of the funeral obsequies of Julian, which took place afterwards at Tarsus, as related by Gibbon, if literally true, will, I confess, invalidate all that I have advanced, for he distinctly states, in vol. iii. p. 236, that the *corpse* of Julian was transported from Nisibis to Tarsus in a slow march of fifteen days; but, again, in the next page, in speaking of the Sophist of Antioch, he esteems his general zeal for the cold and neglected "*ashes*" of his friend, thus, in some measure, leading us to conclude that the body was previously burnt. Whether this was the case, or whether the heart alone sufficed for Jovian to bestow the last honours to the remains of the deceased sovereign, will forever, perhaps, be attended with some doubt, but we cannot, at the same time, reconcile Gibbon's description of the great distress of the army; their famished and weary condition; the factions existing amongst them; the anxiety of each individual to secure his personal safety at the passage of the Tigris (where the loss of the army is stated as equalling the carnage of a day of battle); their subsequent sufferings both from hunger and thirst on their dreary march through the wilder-

At 9.55 A. M. April 6th, left Samarrah, and had hardly proceeded an hour before we grounded on a shingle flat. From Samarrah to this place we had been struggling hard against the violence of the stream, and had nearly surmounted a fall of water over a shoal spot, when, the engines losing their power, the vessel's heel touched the ground, and in an instant she was thrown on the bank, with her port broadside exposed to a stream running nearly seven geographical miles per hour. I have been many times aground both on the Upper Euphrates and on this river, but a worse position than this I scarcely ever occupied. The shore was 290 yards distant, and the dropping of anchors in the stream, from long experience, was known to be useless, as, from the hard nature of the bottom, they came home with the slightest strain. After six hours' hard labour we succeeded in getting an anchor buried on shore, and a chain of 150 fathoms attached to it brought off across the heavy stream to the vessel. We now thought the heaving off certain, and were congratulating ourselves on our success, when the chain snapped in two, and the vessel swung round with a heavy crash, as if her bottom was stove in,—her head down, and the starboard broadside now receiving the whole weight of the stream. Tried in vain to connect our chain again during a heavy squall of thunder, lightning, and rain, and desisted for the night. During the night the stream forced the lee side of the vessel higher up on the bank, while the weather side heeled over to

ness of Mesopotamia, when the beasts of burden were slaughtered and devoured, and the arms and baggage of the soldiery strewed the deserts for want of strength to carry them, with the statement that his *corpse* reached the frontier town of Nisibis; indeed, the slow march of fifteen days, which were occupied in transporting the remains of Julian from Nisibis to Tarsus, will not, I think, coincide with the geographical distance between the two places of 400 Roman, 366 English, or nearly 25 miles daily march, and that, too, through the hilly country situate at the foot of the Taurus. These discrepancies certainly afford grounds for suspecting the general consistency of the historian, even did not the stern fact, which I have previously advanced, of the almost impossible transaction of carrying the corpse for such a distance over the densely-heated and sultry plains of Mesopotamia, negative such a procedure.

I think, therefore, we may fairly infer that, either the body of the Apostate Julian, or the funeral pyre in which it was consumed, formed the *nucleus* of this antiquated pile, and that either his heart, or his ashes, conveyed in an urn, received the last honours of Jovian and the mournful lamentations and clamorous insults of the hostile factions on the journey to Tarsus. The stately tomb, erected to commemorate his virtues, on the banks of the Cyndus, has long ere this passed away, but the imperishable monument of earth, raised by a devoted army over the remains of a beloved general on the margin of the Tigris, will endure for ages yet to come.

For an interesting description of Tel Alij, or Walijah, consult Dr. Ross's paper on a journey to Opis, in the Journal of the Royal Geographical Society, part ii. vol. xi. art. ix. p. 121. He describes it as about 100 feet high, but I consider it at least 150. Its present singular appearance may be accounted for, by future rulers having fortified its summit as a place of refuge from sudden attacks during the ever-varying and disturbed stages which have swept over the country.

The Arab tradition in itself, is not a little curious, and shows that a large body of troops were employed in the construction of the mound.

starboard into deep water, occasioned by the heavy current, acting against the vessel, cutting or abrading away the bank below us. At daylight the port side of the vessel was nearly dry, while the water was within 18 inches of the starboard scuttles, and had we remained much longer in this position she might have turned over, or perhaps filled when the water reached them. At day-dawn, however, we were again at work, and happily succeeded in connecting the chains. From this time till 1.20 P. M. on the 7th we hove at intervals a heavy strain, by which the vessel righted, and eventually came off the ground by allowing the stream to catch her on the opposite quarter. Employed the remainder of the afternoon, after securing in a good berth, in picking up our anchors and cables. Had we grounded on the Lower Tigris a few minutes would have sufficed to have again set us in motion, but on the Upper Tigris and Euphrates it is the labour of hours, if not of days.

Part of the Shammar Arabs under Nejiris are roaming about this part of the country, as are the Al Bu Hamed. Large herds of their camels are grazing around, and enjoying the rich grass which abounds everywhere at this season. Some of the tribe approached the vessel when aground, and a Bedouin I have with me was sent to them to offer no molestation to our crew while burying the anchors on shore. Two of the party were present at the affray in which Suliman Mirza lost his life, and in which our friend Timour was severely wounded by a spear through his lungs. They inform us that the person who slew Suliman Mirza, by severing his head from his body at one blow, met his death a few days afterwards from an Ajail Arab, when they attacked a caravan. They also profess to regret the circumstances attending the attack on the princes, and say they have not known "good" since,—"Their chiefs have been killed and their children have died, their favourite mares are barren and suffering from disease, and happiness has left their homes." Some English iron, I believe belonging to Messrs. Lynch & Co. of Baghdad, was offered to us for sale for a mere nothing. This had been plundered from a caravan a few months previously; and a common bottle, taken from some of Suliman Mirza's party, was tendered for the exorbitant price of two Ghazis.* The former offer, I replied, I could not accept, as I too had iron for sale, and pointed to the 9 lbs. of shot, which, Syed told me, caused some amusement: the latter I did not want, and offered them as many as they wished for, which soon lowered the price of their commodity. These people appear to be the terror of the Jezira, from their lawless habits. The Shammar, though feared, are much less dreaded.

April 8th.—River rose 3 inches last night. Weighed at 6, with cloudy weather and a south wind, which, should it freshen, may assist us.

* About eight shillings.

At 7.17 Ashik bore west three quarters of a mile distant; Chaaf el Keeb,* some high mounds south of Ashik, 201°; Samarrah, 137°; Malwiyeh, 129°, with the mounds of Mashuk nearly in a line with it; Khalifa, 112°. The river from this trends more to the NE. for a short distance along the cliffs forming the east boundary of the valley of the Tigris, thence north to Shinas, some modern ruins, which extend a considerable distance to near Abu Delif, a miniature resemblance of the Malwiyeh, which we passed at 11, a moderate south wind materially assisting our progress. At 1.10 arrived opposite the mounds of Mehjir and the Kantarat el Resasa, or main branch of the Nahrwan already alluded to. The former is the scene of a great action fought by Omar Pacha of Baghdad, against the large tribe of Majammah. (Dr. Ross's Journal, Royal Geographical Society, vol. ix.) On the east side of the Tigris, about two miles inland from this to the eastward, is the upper Sidd, or "band," across the Nahrwan, constructed of large masses of stone, held together by leaden clamps. From this it derives its name, Kantarat el Resasa,† literally signifying "the bridge of lead," and, although not actually a bridge in our acceptation of the term, but a dam to confine the water in the low season, it might have answered both purposes; or, with more probability, the name may be modern, and come into use only since the decay of the canal.

Passed many encampments of the Shammar on the right bank near Haweisilat. They extend nearly up to Mosul. These people are, however, migrating towards Baghdad, as Suffok, the chief Sheikh, advances to the south. The parties of Nejiris and Suffok are now not on friendly

* Mounds of the Seven Sleepers and their Dog.

† In Gibbon's Decline and Fall, vol. iii. p. 225, we find in a note that M. D'Anville has demonstrated the precise position of Sumere, Carche, and Dur. I have not M. D'Anville's work by me, nor am I acquainted with the situation he assigns to Carche. From my own observations, however, I am inclined to identify this spot with the position the Roman army encamped in, under Jovian, the night previous to its reaching Dur. The "*lofty dikes of the river*" can be no other than the high embankments of the gigantic Nahrwan; and by "*the hills from which the archers of Persia insulted and annoyed the weary legionaries*," I presume, is meant the high conglomerate cliffs which here bound the east valley of the Tigris. These are diversified into a multitude of heaps, caused by torrents from the high lands forming deep ravines ("*sequestered valleys*" of Gibbon) on their passage to the Tigris. Unless it be as I have premised, it is certain that no other *Hills* exist within thirty-five miles of this vicinity. The eye wanders over a vast and magnificent plain, relieved only by the twin monuments of antiquity, known as the Tellul Benat and Alij, which, in all probability, were not only erected by the distressed legionaries over the ashes of their late Emperor and comrades, but remain to this day a sad memorial of the sufferings they endured.

The geographical distances of each day's march will be found to correspond with the movements of a large army, and the precise spot in which Julian fell must be looked for about ten miles to the ENE. of the ancient Samarrah. The true bearings of the various objects of interest in this neighbourhood will be found in page 29 of this Journal, taken from the summit of the Malwiyeh on the site of the ancient town.

terms, owing to Nejib, Pacha of Baghdad, having invested the former as Sheikh of the tribe, while the latter claims it as a right. Ahmed el Kode (a connection by marriage of Suffok) informed me this morning that the Abeid once possessed the whole of Northern Mesopotamia, and that the present Shammar usurped the country in rather an original way, but a way, nevertheless, adopted even by more civilized nations than the predatory Arab races. He says:—"Two Shammar families with their tents originally wandered from Nejd, and after some time encamped with the Abeid. Among the chattels of the new comers a wooden bowl of extraordinary dimensions was observed, but it excited no further curiosity until the strangers invited some of the then holders of the soil to a feast, when the bowl was set before the guests, filled with the carcases of sheep, butter, and the usual ingredients of Arab fare. The dinner was duly discussed, and the Abeid, on returning to their tents, were talking of the munificence of the strangers and the unusual dimensions of the wonderful bowl. A greybeard of the tribe, who had not been at the feast, listened in silence for some time, and starting up, to the dismay of his friends, demanded that the newly arrived strangers should be immediately put to death, adding, with the air of a prophet, that the famous bowl told a story in itself, and that, ere long, many strange fingers would be dipped into it. It literally happened as the old man had foretold. His voice was overruled in the assembly, and the strangers' lives were spared. A few months afterwards, Shammar after Shammar arrived and feasted from the much-dreaded bowl. A few years sufficed for the total expulsion of the Abeid, and, from being lords of the soil, that once powerful tribe became Fellahs and slaves to the formidable Shammar." Such was Ahmed's account of the origin of the Shammar in Mesopotamia, but, nevertheless, the Abeid are still powerful enough to render themselves obnoxious to the Government. They at present occupy the country opposite Tekrit, and, I believe, now never cross into Mesopotamia.

At 3.15 the tomb of Imam Mahomed Dur at Dur,* bore east. In shape it is a cone similar to that of the tomb of Zobeidi in Baghdad, on a square base. The village is a collection of miserable houses on the undulating mounds forming the east margin of the valley of the Tigris, and boasts of a small minaret. Rich appears to identify this spot with the "plains of Dura" of Scripture. The river opposite the village is disposed into numerous channels, much contracted, through which it flows at a very rapid pace.† Having

* "Dura was a fortified place in the wars of Antiochus against the rebels of Media and Persia."—*Note in Gibbon, from Polybius*, vol. iii. p. 226.

† On the fourth night after the death of Julian the army under Jovian encamped at this place, and experienced much difficulty in vain attempts to cross the Tigris. The ignominious

with difficulty ascended beyond the numerous islands, came to an anchor above the village about one mile to receive our fuel, which is piled on the bank awaiting us.

The inhabitants soon collected. The Pacha's letter was presented, and received with every mark of respect. After a short consultation, a boisterous fellow was called for, with hands stained with indigo, and who followed the calling of a dyer, as well as Moolah, and teacher to the "young ideas" of Dur. The letter was handed to him to read aloud for the satisfaction of his auditors who formed a circle around. Diving his right hand into his pocket, which was capacious enough to hold any one of his scholars, he produced a pair of barnacles, and, fixing himself in a commanding position, vociferated forth the contents of the missive at the full pitch of his Stentorian voice. When he concluded, a buzz of applause signified the approbation of the assembly and their willingness to act in any way I might require.

To the east of Dur, about a mile and a half, a high tumulus, named Tel Benat,* or the "Girls' Mound," is situated. It is similar to the Tel Alij, and can be seen some distance off from its isolated position on the plain. Between it and the village are many lime-kilns. Lime is here found in great quantities, and Baghdad is chiefly supplied from this place. It is conveyed in rafts down the Tigris.† I remarked that the

treaty between Sapor and Jovian was here concluded. The impregnable fortress of Nisibis and the stronghold of Singara were acquired by the Persians in a single article, and a disgraceful peace of thirty years' duration consented to by the "obscure domestic," as Gibbon terms the newly elected Emperor.—*Gibbon*, vol. iii. p. 228.

Great difficulty would no doubt be met with at the present time in crossing a large army at this particular spot. The river is here more than usually rapid from the great declivity of its bed.

* This resembles Tel Alij in appearance. It is about the same height and evidently of equal antiquity. Much care has been taken in its construction, and the remains of a ditch and covered way are still discernible. The "tumulus" is no doubt of Roman origin, and copper coins, bearing Roman characters, but too much corroded to render them decipherable, were found in its neighbourhood. We know that both the Greeks and Romans erected conspicuous mounds or piles over the ashes of their celebrated generals, and it is presumed they would have resorted to this mode of burying their illustrious dead in a country where stone is not available for monuments. The sacred nature of the tomb amongst the nations of antiquity which preserved these structures inviolate in former ages, has equally defended them from the ruthless hand of the superstitious Arab. Time also, instead of demolishing, adds to a fabric of this nature, as every blast of wind that sweeps over the Desert carries with it clouds of dust, which accumulates on and enlarges the original structure, rendering it the most durable and imperishable of all monuments.

If Tel Alij be admitted as the tomb of the ill-fated Julian, we may conclude that Tel Benat covers the remains of the legionaries who fell in the repeated attacks made by Persians, and of the many who lost their lives in the ill-conducted attempts to cross the Tigris at this spot.

† The rafts in use on the Tigris at the present day have in no wise altered since the days in which Herodotus, the author of the Anabasis, and the historian of the Emperor Jovian compiled their works. They are composed of the branches of trees supported on the inflated

inhabitants here generally appear sickly, and sore eyes seem to afflict the greater part of the community. Some of the women were very pretty and fair, and evinced no alarm at coming near the vessel.

skins of sheep, and are capable of carrying a load of from thirty to forty tons. These rafts are admirably adapted for the descent of the Upper Tigris. Possessing but a small draught of water, they are enabled to float over the numerous dikes and shallow spots met with in its course to Baghdad. Floating with the stream, two or four paddles, according to the size of the raft, are capable of retaining it in the fair channel, and accidents, therefore, very rarely occur. On the raft being unladen at Baghdad the timber it is composed of is sold for what it will fetch, and the skins, after being dried, are conveyed back to either Tekrit or Moosul by land. In this manner, the whole of the immense blocks comprising the Khorsabad marbles, lately excavated from a village of that name in the neighbourhood of Moosul, by M. Botta, the French Vice Consul, at the expense of his Government, were conveyed to Baghdad, and there shipped into native boats for Basra, where the national brig Comorant was in readiness to receive and finally convey them to France.

Travelling by raft, as a matter of convenience, is far preferable than by the land journey from Moosul to Baghdad. A tolerable-sized tent, sufficient to protect one from the sun, can be pitched on this original conveyance, and a few books, with the varying scenery, will tend to wile away the few days (not exceeding six, and some times only two) that may be occupied in the descent of the river. It is, however, not at all times a safe route, for when the Arabs are in a disorganised state, consequent generally on some ill-timed measures resorted to by the Government for their coercion, they fail not in stopping and plundering any rafts or passengers that may chance to come within reach of them; indeed, I am informed, that on one occasion a British officer happened to be journeying in this manner and was thus waylaid. My informant added, that notwithstanding the over-confident individual was armed to the teeth, and had hinted a determination not to be taken alive, he was stripped of everything he possessed, even to his nether garments. I have since met some of the party who helped to denude the unfortunate traveller. It was both ludicrous and amusing to witness the delight with which they imitated his piteous supplications to be allowed to retain only his shoes. This was, however, denied him, and he was compelled to walk barefooted through the prickly camel-thorn from the encampment back to the raft. His gait and gestures under this indignity were inimitably personified by his ruthless captors.

I have since heard that had it not been for the vaunting display of so many weapons by a single individual, he would have met with better treatment, and been allowed to retain his habiliments instead of being forced to appear in *puris naturalibus*.

The display and injudicious use of arms in a case like this cannot be too strongly reprobated. A single pistol or a sword is sufficient to intimidate a few petty robbers; but with the lawless tribes of the Desert, who attack generally in overpowering numbers, the exhibition of offensive weapons, by a disparity of force, serves only to irritate, and is likely to lead to bloodshed, which the Arab in most cases wishes to avoid. Blood, however, being once drawn, the result is easily conceived. The fate of Messrs. Taylor, Aspinall, and Bowater is fortunately, I believe, a solitary instance recorded of massacre having followed the rash act of injudiciously using arms amongst Europeans, but such occurrences are frequently heard of as happening to the natives of the country, and indeed the *law of blood*, universally admitted in the Arab code, in some measure sanctions the indiscriminate taking of life as an indemnification for the loss of either friends or relations by strife or feud. This law, though possessing its disadvantages, is morally a good one among the barbarous tribes of Arabia, for murders would become of more frequent occurrence, did not the fear of revenge tend to restrain the animal passions. A family having what is termed Dum, or "blood," on its hands is generally shunned by the rest of the tribe, who dread being involved in its consequences. The same rule affects individuals. The penalty, however, of *blood for blood* can be commuted for a sum of money paid by the offender to the tribe of the injured party, only a part of which the latter shares. It is collected from the whole tribe to which the culprit belongs, provided he is too poor to pay it

Having completed wooding by 7.45, April 9th, we continued our ascent. The river above this is new to us, the vessel not having reached beyond Dur when we attempted the ascent in 1843. Indeed, had we not been favoured with a strong south wind, I fear our present attempt would have been attended with the like disappointment. At 10.15 a small enclosure in the Hawi on the left bank bore east two miles. It is called Khan Jozani, and affords protection to the cultivators when threatened by plundering parties of the Abeid or Shammar. The tomb in Dur bore at the above time 157°. The river from Dur to this is known by the name of the Khan, and is much cut up into islands, rendering the main channel extremely sinuous. Our ascent to this has been one continued struggle against a heavy stream, and a rapid every half mile, which the vessel barely manages to overcome. Progressing steadily against the difficulties, arrived opposite Sheriat el Aouja, a landing place formed by a gap in the cliffs on the west side of the Tigris. From this Dur bore 149°. Caravans here halt to water. At the time of our passing, a Ghazu, or plundering party of the Shammar were lying in wait for any opportunity that might present itself for enriching themselves at the expense of others. Long before we reached Tekrit the inhabitants had turned out, and the adult of the population even met us several miles below. At 4 P. M. anchored at Tekrit, and received a visit from its Governor, Mustafa Effendi, who put the resources of the town at our disposal, and rendered us much service, by placing at our command several Cavasses, without which we could scarcely hope to complete the vessel with fuel, the crowd around being great.

In the evening, I walked to the top of the cliff on which the old citadel stood. It bears evidence of former strength, and, being naturally nearly inaccessible, must have been entirely so when fortified. The front facing the river is quite perpendicular, and exhibits horizontal strata of stiff clay, red earth, fine sand, and conglomerate in successive layers, from the water's edge to its summit; indeed, this is the general formation of the cliffs bounding each side of the valley of the Tigris from Samarrah to Tekrit. This isolated cliff is about 130 yards long

himself and the offence is not of a very aggravated nature. The *price of blood* varies in different parts, and is, moreover, not at all times accepted. In the towns a small sum, according to the degree of the party, suffices, and may be reckoned at about £20 to £30. Among the Desert tribes it is much more, amounting in some cases to nearly double these sums, paid partly in coin, and partly in camels, oxen, or sheep. On settling these affairs a good deal of form is gone through. The heads of the tribe and the relations of the parties concerned assemble at a fixed spot, and, after payment of the penalty, witnesses are called to swear on the Koran to the nature of the settlement; a hole is then dug in the ground in which the feud is considered to be buried. It is then filled up, and a curse pronounced on the head of any party who might happen to revive the quarrel. The parties then separate. This contract is not, however, at all times binding; in a few cases a thirst for revenge predominates, and whole tribes are then involved by this breach of faith of a single man.

by 70 broad, and in height 86 feet* from the water's edge, but the *débris* of the former buildings scattered over its summit increase it to a hundred in its highest part. Large massive bastions of lime and pebbles, faced with solid brickwork, abut around the cliff, between which the wall once stood. On the south face between the citadel and the modern town and half way down the cliff, two buttresses, of the same formation as the bastions, point out the situation of the gateway. The bricks which faced them have been carried away for other buildings. A deep ditch, about 30 yards in breadth, but now filled up with rubbish, conveyed the waters of the Tigris around the base of the citadel, thus completely insulating and rendering it impregnable, before cannon came into use. South of this, on another isolated hill, stands the modern town, formerly girt in by a wall which has fallen to decay. It contains at present about three hundred miserable houses and one thousand inhabitants, but the space formerly occupied by the ancient town is of great extent. Some ruins called the Kanisah, or "Church," are still shown. A few years ago when Suffok, the Shammar Sheikh, invested the town, a trench was dug by the inhabitants for defence. From it many curious urns of pottery and sepulchral vases were exhumed, one of which, in the possession of a Moolah Rejib, spoken of by Dr. Ross in his Journal, I with difficulty procured from the owner. It is surmounted with figures of men and birds of a curious but rude execution, and is probably Babylonian.† The modern town has two mosques, but no minarets. The streets are kept free from filth, and altogether bear an aspect of cleanliness and order seldom seen in eastern towns.

I am told, on an emergency, four hundred matchlocks and guns can be collected for the defence of the place, and am inclined to believe this is rather under than above the true amount. It is, however, certain that the Tekritlis have maintained their position against the Arabs, and even compelled the powerful Sheikh of the Shammar to relinquish his intended assault on the place, by the menacing attitude they assumed.

Mr. Rich, in speaking of this place in the flourishing time of Daood Pacha, states that it was then farmed for 22,000 Con. Piastres annually, and that it boasted at that time of six hundred houses. I presume this must be a mistake, for at present, though its dwellings are but half that number, and its population proportionally small, from the effects of the plague and other causes, the proprietor, or farmer, pays yearly to the Government of Baghdad, a sum three times as large as that mentioned

* Rich, in his work, estimates the height at 200 feet; he is, however, in error, for I bestowed some care on its measurement.

† It is now in the possession of Major Rawlinson, C.B., the Political Agent in Turkish Arabia, and the learned and indefatigable author of a work which is now in the press on the Cuneiform Inscriptions of the East. To his other and varied accomplishments, he adds that of a keen and persevering antiquarian.

by Mr. Rich. For 68,000 Con. Piastres, or a sum equal to about £600, it is farmed this year. The Hakim, or Governor, is Mustafa Agha, and agent or Vakeel of the proprietor, who resides in Baghdad. I paid him a visit at his house, if such a wretched dwelling can be called one. He received me very politely, and, taking my seat among the elders of the place, various topics were discussed. The Governor paid us the utmost attention, and, to show his breeding and knowledge of the world before the motley assembly seated around, asked if I preferred coffee after the European mode, with milk and sugar, or "à l'Arabe." Not to put him to any trouble, I mentioned the latter, but he would not be gainsayed, and, after many instructions and lessons on the art of making it, his servants produced a tolerable beverage. Great complaints are made by the Tekritlis against the Government, and at the present unsettled state of this part of the country. Fear of the Shammar on the one side, and the Abeid on the other, has prevented the towns-people from extending their cultivation to its usual limits, and the consequence is, the rich land lying between Tekrit and the Hamrin is now a perfect waste. The inhabitants are all Mahomedans, with the exception of one solitary Jew, who is on the staff of the Governor, and whose life is not to be envied. To the question of "What have you in Tekrit?" "One barren date-tree and an infidel Jew," was the reply.

During the night obtained a meridian altitude of *a* Scorpii, from which I deduced the latitude 34° 35′ 45″ N., and from the citadel* I obtained the following bearings:—true bearing of the tomb at Dur, S. 27° 8′ E.; magnetic bearing of the same, S. 24° 30′ E., making the variation 2° 38′ W.; Tel Benat near Dur, 150°; Khan Jozani, 148°;

* I have searched in vain for any ancient notice of Tekrit. Naturally strong and rendered in a measure impregnable by artificial works, whose remains are still plainly distinguishable, it is not a little curious that it has as yet, I believe, remained unidentified with some of the strongholds of antiquity. Both Rich and Fraser, though frequently mentioning it in connection with the geographical description of Upper Mesopotamia, fail to attach any historical record to this locality. In an old atlas I observe Birtha is marked as situated on this spot, and having no works in my possession that allude to it, I am compelled unwillingly to remain in ignorance. Birtha, is, however, generally regarded as identical with the modern Bir or Birehjik, a small town occupying an ancient site on the Upper Euphrates, and the near resemblance of the ancient to the modern name would seem to justify the conclusion.

I am inclined to regard it as having been at one time a Christian town. The Arabs have a tradition to that effect, and the term *Kanisah*, only used to denote a *church*, would warrant the supposition. Three ancient edifices in the modern town, and a ruin on the opposite bank of the Tigris, are thus designated.

Since writing the above note I observe that Mr. Ainsworth, in his Asia Minor, includes Tekrit (Tagrit) in his list of Chaldean bishoprics, vol. ii. p. 276, from a catalogue published by Amru in the twelfth century.

The existence of Babylonian relics (p. 23 of this Journal) amongst its ruins, however, would refer its origin to a date anterior to Christianity, but under what appellation it was known by, or from whence it derived its present name, I am at a loss to conjecture.

a ruin on the opposite side of the river called Kanisah, 110°; opening on the Hamrin where the Tigris breaks through, called El Fel'hha, 348½°; a ruin of an ancient nunnery termed Dar el Benat,* or the "Girls' Residence," stands about a mile and a half to the NW. of the citadel.

Having obtained observations† for the chronometer, and despatched a messenger to Moosul with letters to the Vice Consul, and with instructions to communicate with Suffok, to whom I addressed a complimentary epistle, we left Tekrit at 9.40 A. M. A new pilot, or rather an old one (for I believe he is upwards of seventy years of age), was shipped for the river above this; in fact, he is the same individual who conducted the Euphrates under Lynch seven years since. He declared, after having been on board an hour, and witnessed the performance of the vessel against the current, that she could not pass the rapids which the Euphrates found difficulty in ascending; indeed, what he says, I fear, will prove true, for our progress to-day has been considerably slower than yesterday, and in many places amounted to almost a stand-still. At 4.15 P. M., having a long reach full of difficulties ahead, and no hope of passing it before night comes on, brought to an anchor in the only secure spot to be met with in the neighbourhood.

From Dur the principal channels appear to be confined to the western part of the valley of the Tigris, but below that place the main body of the stream attaches itself to the eastern cliffs.

The latitude was observed this evening by a mercurial altitude of *Dubhe 34° 41′ 52″, thus making our whole day's progress of six and a half hours' steaming equal to 6′ 7″ of northing only.‡

April 11th.—At 6.14 A. M. weighed, but in casting the stream caught her bow, and there not being room, from the confined space the river flows in, to bring her head up stream with the helm, dropped an anchor in the hope of checking her, but without effect, from the hard nature of the bed of the river. Drifted down a considerable distance before we could get her head round, and did not reach the place we started from until 6.45. The anchor too, on heaving it up, was found minus the stock. Sent the boats with a party of hands to track up while the vessel ascended the rapid, which she did with tolerable ease. Steamed up to a bluff point of the cliffs on the west side of the river called Abd 'l Kerim,§

* Probably a nunnery when Tekrit was a Christian bishopric.

† These observations place Tekrit 42′ 16″ west of Baghdad.

‡ A singular cave in the cliffs forming the right margin of the river is just below our present anchorage. The pilot terms it *El Selwa*, or the Serein. The *Kelleckchis*, or raftmen, have a peculiar dread of the spot in this vicinity, believing the interior of the cliff to be the habitation of a pleasing but seducing race, who lure but to destroy.

§ This is the burial-place of a son of the Imam Musa, the seventh of the twelve Imams, revered by the Shiahs. He was born in the year of the Hejra 128, and was poisoned at

from an old Imam now in ruins standing on its summit. Hauled alongside the bank to wait for the boats which came through an inlet or Khalidj. Observing a party of Shammar horsemen making towards the boats, sent an armed detachment to prevent their molesting the trackers, on which they retreated. The boats having joined at 9.20, steamed on. The river rose 16 inches between sunset and daylight, causing a greater rapidity in the current. It is hereabouts divided into many channels and well-wooded islands.—12.20, reached Gubah on the left bank, near a high mound* in the plain, and the first tamarisk grove met with north of Baghdad. Our wood is deposited here. Completed wooding by 2 P. M. and stood on. The channel is very tortuous to Kal'eh Abu Reyyash.

At 4 P. M. the Kal'eh bore west. It is a ruined enclosure on the cliffs, with a fine plain or Hawi extending to the eastward from it. A large encampment of the Shammar now occupies this magnificent plain. They are of Nejiri's party, and of considerable strength. Nejin is the name of the Sheikh. Indeed, the margin of the river from Tekrit to Khan Kharneineh is now entirely peopled by the Shammar, and all communication between Tekrit and Moosul is in consequence stopped. They have vast herds of camels and sheep, which are seen grazing with their beautiful horses on this rich plain, dotted here and there with black tents, affording a pleasing picture of pastoral life, did not the character of the tribe contrast sadly with its primitive habits.

At 6 P. M. brought to for the night on the east bank. Our whole progress to day, as deduced from the latitude obtained from an altitude of * Dubhe 34° 49′ 43″, has been but 7′ 51″ to the northward. The river rose 3 inches during the night.

April 12th.—Left at 6 P. M., and struggled hard against the rapid stream until 9, when we were opposed by a fall. The ascent of this, not 100 feet in extent, occupied us until 11.20. It was only overcome at last by a south wind springing up, enabling sail to be set, and by sending our boats to track up inshore.—12.30, passed a ruined Khan named Kharneineh,† situate under the cliffs on the west side of the

Baghdad, by order, it is said, of Harun el Rashid. He is buried at the village of Kathemein on the right bank of the Tigris, three miles above Baghdad, and the Persians have built a handsome mosque over his remains, the cupolas of which are covered with beaten gold. —*Rich's Kurdistan and Nineveh*, note to p. 144, vol. ii.

* This mound is of great antiquity, and, as its name signifies in Arabic, a *chamber* or *temple*. I think it might be identified with some of the lost positions. I possess neither the time nor learning for such research. Were the mound excavated, it would no doubt afford some interesting relics. Its situation is about N. by W. from Tekrit, and is in lat. 34°47′ N., or eleven geographical miles distant from the town.

† A Caravanserai, now in ruins. It stands on the high road to Moosul, and was much frequented when the Kafilas pursued the route by the Jezira. The encroachments and increasing power of the Arabs, rendering travelling by this route unsafe, caused its abandonment.

valley. These cliffs now diverge considerably more to the westward, while those forming the east boundary of the valley of the Tigris trend more to the eastward, leaving abrupt and broken angles at Kharneineh on the west, and at a point called Leg Leg on the east. Immediately north of Leg Leg, about three miles, the remains of Nahr Hafu, or upper branch of Nahrwan, is seen. It is said to have conveyed the waters of the Tigris under the cliffs, through a tunnel, to the main branch at Kantarat el Resasa;* another small canal or feeder is situate about two miles south of the same point. From the diverging points, described above, the country is more open, and undulates in gentle slopes to the foot of the Hamrin Range. From Khan Kharneineh the river is very tortuous and is divided by numerous beautiful islands, covered with every species of wild grass, as well as with the tamarisk and poplar; some of the latter have attained to considerable size, affording a precarious livelihood to the inhabitants of Tekrit, who raft it to Baghdad for sale.

After leaving Kharneineh our progress was a little more rapid, owing to the fine southerly wind which continued till sunset, when we made fast for the night at an island about three miles below El Fet'hha, or the "Opening," where the Tigris breaks through the hills. The latitude observed here was 34° 56′ 57″, and the northern mouth of the Nahrwan bore NE. one mile distant. The continuation of the Hamrin on the west side of the Tigris, termed Jebal Makhul, is now end on, and bears NNW. ½ W. The eastern ridge, or that termed Jebal Hamrin, extends from a little above this point to the south-eastward, and is an incongruous heap of barren mounds, composed of sandstone and pebbles, without a blade of vegetation. Both the Hamrin and the Jebal Makhul are alike in formation, and may be reckoned about 500 feet high at this spot, though their altitude decreases as they advance to the SE. The rich plain at their base is in pleasing contrast with their desolate summits. During the night the river fell 6 inches; thermometer at 50° to 85° in the shade.

April 13*th*.—Left at 5.45, and not being favoured as yesterday with the south wind, advanced at a snail's pace to our wood, which we reached at 7 A. M. It is cut in a small tamarisk grove just above the mouth of the Nahr Hafu, and covered in with branches to prevent its being fired by the Arabs. Here we remained wooding, and despatching answers to letters just received from Baghdad until 9.30. Made a fresh start at this time, but, as I had anticipated, after receiving our fuel, with little or no success. Struggled hard against the stream which here breaks through the hills with much force until 11.20, when we were brought to a stand-still without any hopes of accomplishing our

* Ancient Carche. See note to p. 18.

object, and on considering that our success hitherto had been mainly attributable to fresh SE. winds, and that obstacles of a much more formidable nature than those we had encountered awaited us, besides the risk we ran of grounding and eventual detention, should the water fall after the high state the river had risen to, I reluctantly determined on retracing our steps to Baghdad, and accordingly put the helm up.

The last day's journey has been through a rich country, teeming with wild plants of nearly every description; undulating slopes of an emerald green, enamelled with flowers of every hue, are spread before the eye like a rich carpet, at every turn of the stream, and nothing is wanting but the hand of man to turn such a profusion of Nature's gifts to account. But all is a vast solitude. The silence is unbroken, except by the rushing of the torrent past the time-eroded cliffs, or by the screech of an owl, awakened from his lethargy by the flap, flap, flap of our paddle-wheels. When Mr. Rich passed this spot, some twenty years ago, all was bustle and activity. Arab tribes were located on the banks of the river, and the beautiful islands, rich in their spring garments, formed the abode of the peaceful cultivator. The ruthless Shammar have since then, by the weakness of the Government, spread devastation wherever they pitched their tents, and, thinned by the plague which assailed the Pachalic in 1831, the former population have been obliged to flee to the more secure districts in the neighbourhood of Kerkut.

The rapidity with which we are now descending, after our hard struggle upwards, appears to gain fresh impetus at every mile. Rocks and islands, steep cliffs and shingle banks, quickly succeed each other. Cattle, tents, and men are reached in a single hour, and the silent desolation of yesterday is exchanged for the noise and activity of animated nature. The following places were passed at the respective times found opposite to them, viz. Khan Kharneineh, 0.52; place anchored at on the evening of April 11th, 1.15; Kal'eh Reyyash, 1.30. Reached Tekrit at 3.20 P. M.; thus performing the descent in 3.50, which had occupied us thirty hours steaming on the journey upwards. Between Abd'l Kerim and Kal'eh Reyyash, a small stream or torrent falls into the Tigris on the left bank. It is named Nahr Mil'ha, and is said to be of considerable size during the winter months, when swollen with the torrents from the Hamrin Range.

April 14th.—Reached Samarrah* at 9.9 A. M. Remained here during the day to make arrangements regarding the despatch of our overplus fuel to Baghdad by raft.

* By good observations for latitude and longitude I place Samarrah in 34° 11′ 33″ north, and 32′ west of Baghdad.

In the evening visited the Malwiyeh. From its summit I obtained the following true bearings, as deduced from magnetic by a prismatic compass:—Minaret, or tomb of Imam Mahomed Dur at Dur, 342° 45′; Khan Tholiyeh, 119° 30′; Khan Mazrakji, 132°; El Ghaim, tower at the entrance of the south branch of the Nahrwan, 165° 30′; ruins of Ashik, on the right bank opposite, 299° 30′; Tel Benat, or the "Girls' Mound," near Dur, 345° 30′; Tel Alij, or the "Nose-bag Mound," 18° 30′; Khalifa, or Old Palace, 341° 00′; Qadesiyeh, old fortress, extending from 147° to 157°; Istabolat town, 167°: variation of the needle, 2° 55′ west.

April 15th.—Left Samarrah at 6.21, and steamed down the river against a heavy south wind, which, in the reaches directly opposite to it, raised the waters of the Tigris into a considerable swell. Passed Qadesiyeh at 7.25; Khan Mazrakji, 8.10; Khan Tholiyeh, 9.3; mouth of the Atheim, 10.0; Sindiyeh, where we stopped for fuel, at 11.52; Jedideh village, 3.7 P. M.; and anchored off the gardens of Trumba in a heavy squall of thunder, lightning, hail, and rain at 6.20. The next morning took up our old berth at Baghdad, after passing through the Bridge of Boats.

From these observations it will be seen that the journey northward against the stream occupied eighty-six and a half hours' steaming, while the descent was performed in the short space of nineteen hours.

I much regret the termination of our trip, for I had flattered myself that it might not only prove useful in a geographical sense, but also both instructive and amusing. I had contemplated, could I have only reached the neighbourhood of Moosul, a visit to that town and the adjacent ruins of the Assyrian cities of Nineveh, Khorsabad, and Nimrud,* as well as a minute examination of the

* A large and very ancient mound, I believe first described by Mr. Rich in his Kurdistan and Nineveh. He identifies it with the Larissa of Xenophon. The learned Bochardt, in alluding to this spot, remarks the improbability of a town with such a name existing in this part of the world, previous to the conquests of Alexander. He therefore conjectures that this city is the Resen mentioned by Moses in Gen. x. 12, and imagines the name Larissa to have been applied to it by Xenophon, not only from the attachment of the Greeks to this peculiar name, but from its resemblance to the Hebrew Laresen of Resen, which no doubt suggested its being corrupted to Larissa. He concludes by observing that it is easy to imagine how this word (Laresen) might be softened by a Greek termination, and made Larissa.

Mr. Fraser, in his work on Mesopotamia and Assyria, states it is also known by the appellation of El Athur, or Asshur, from which the whole country derived its name. Be this as it may, there can be now no doubt of its great antiquity, for the enterprising and intelligent Bakhtujari traveller, Mr. Layard, so far back as last November, succeeded in discovering with little labour some beautiful specimens of antique statuary in very high relief, and large slabs covered with the Assyrian cuneiform writing. He is now actively employed in extensive excavations since he obtained the Firman from the Porte, and, I am informed, has realized in his discoveries all that an ardent antiquarian can wish for; indeed, Nimrud is represented as inexhaustible. It is probable that Mr. Layard's first cargo of *reliques* has, ere this, reached Baghdad, thus far on its way to England; and it is hoped, if the Government do not undertake

interesting El Hadhr, so graphically described by my friend Dr. Ross; and I feel the disappointment the more, as I have already been six years in this country without ever having had such an opportunity, my duties not permitting me to absent myself from the vessel for a length of time, such as would be required to perform the journey by land from Baghdad.

The failure of this attempt is not to be attributed to any severe obstacles met with in the navigation of the Upper Tigris; for to a vessel possessing the power of those now running on the Thames, of an average speed of ten knots per hour, such difficulties as the Nitocris experienced would be deemed of minor importance. The Nitocris, indeed, under the most favourable circumstances in still water, cannot exceed the speed of eight knots per hour; having a wheel of 12 feet diameter only, and a short stroke of 30 inches, more cannot be expected of her. By some miscalculation of the designer of the vessel, this diameter of 12 feet is further reduced to 11 feet 4 inches, from being obliged to reef the paddle-floats, as, when carried out to the full extent of the circumference of the wheels, experience has proved that she is much less effective than in her present state. The engines are, in fact, either placed too low in the vessel, or, when launched, the hull must have drawn more water than was calculated upon.

It is true that the Euphrates, built under the superintendence of Colonel Chesney, ascended to a much higher point, when commanded by Captain Lynch, but in all respects she was a superior vessel, though drawing a little more water than the Nitocris, and carried her paddle-shaft at a considerable height above her deck, thus giving a diameter of wheel of nearly one-third more. To the above causes, then, must be imputed the inability of the Nitocris to perform the ascent of the Upper Tigris. As I have said before, that, under the most favourable circumstances (without either fuel or provisions), her speed does not

the further excavation of this interesting mound, that some public body will lend its endeavours to facilitate Mr. Layard in the objects he has in view, and thus secure to England a rich mine of antique specimens, unique of their kind, which will afford matter for inquiry and further research into the large field now opened to us in Mesopotamia, and, without doubt, tend to elucidate and finally brighten the few glimpses afforded us into the hitherto dark pages of ancient history.

The untiring and ardent mind of Major Rawlinson, I think, first suggested the idea of excavating on this site, and the antiquarian community of Europe are not only indebted to him but to Sir Stratford Canning, H. B. M.'s ambassador at Constantinople, who, in addition to opening the mound, undertook, with a munificence rarely met with, to advance, from his private purse, the necessary funds for commencing the operations on an extensive scale. His unceasing exertions, too, with the Ministers at Constantinople, to secure by Firman the right of exploration on Turkish soil, without which Mr. Layard's exertions would have proved fruitless, must claim for His Excellency the gratitude of the British public. It only remains now for the Government to continue what has thus been so liberally begun.

exceed eight knots, it can hardly be deemed a matter of surprise that she should have failed to contend against a stream of six and a half geographical miles per hour with occasional falls, when it is considered that she carried above one month's provisions and eighteen tons of fuel, besides the guns, *matériel*, and men on the present expedition.

When I left Baghdad I hoped for, but did not anticipate, success. I am, therefore, not disappointed. We have, at all events, to congratulate ourselves on having ascended to the Hamrin, whereas our former journey, having the same objects in view, terminated at Dur from an insufficiency of water.

The bearings throughout these Notes are true, excepting where expressly mentioned, by compass, and are reckoned from north to the right, east being 90°; south, 180°; west, 270°; and north, 360°.

NARRATIVE OF A JOURNEY,

UNDERTAKEN, IN APRIL 1848, BY

COMMANDER JAMES FELIX JONES, I. N.,

FOR THE PURPOSE OF DETERMINING THE

TRACT OF THE ANCIENT NAHRWAN CANAL.

ACCOMPANIED BY

PRELIMINARY REMARKS ON THE CANAL;

WITH

A GLANCE AT THE PAST HISTORY OF THE TERRITORY OF THE NAHRWAN.

Submitted to Government on the 11*th April* 1850.

NAHRWAN CANAL, &c.

PAST HISTORY OF THE NAHRWAN TERRITORY.

During the greater part of the year that portion of Arabia-Irak lying to the east of the Tigris, except on the few beaten tracts of commerce, is almost as difficult of access as the most impenetrable regions of the globe. The absence of water in the district, and the character of the predatory tribes that traverse it, have prevented travellers from exploring this interesting region, and it has, in consequence, remained all but a *terra incognita* to the European world. Desert as it now is, it was once one of the most fruitful provinces of the classic land, which, rich in the element that nature has provided for fertilisation and for the support of animal life, required but the labour and skill of man to distribute it in aid of the purposes for which it was designed. As a prolific source of revenue, the value of water was not only fully appreciated by the ancients, but an eminent skill, if we may judge by the decayed remains that are displayed to us, pervaded the system employed for its circulation over the vast plains comprising the territory of Irak.

Mesopotamia was traversed by canals in every direction, that, in their construction, required but little beyond the labour of excavation. The region we are treating of, however, comprising a tract of four hundred miles in length, with an average breadth of fifty, bounded on the east by hilly ranges that declined with an easy and very gradual descent to the Tigris, demanded a degree of hydraulic proficiency compatible to the undertaking, in the distribution of water over so large an extent; and in the construction of the Nahrwan* canal it was eminently displayed.

* The name Nahrwan, in these preliminary remarks and in the narrative which follows, except when treating of its more ancient appellations, has reference to the whole line of canal from Dur on the Upper, to Kat el Amareh on the Lower Tigris. In the present day, its ancient names of Katul el Kesrawi and Tamerrah have been lost in the more general appellation of Nahrwan, and I have accordingly adopted the term (though an erroneous one), to prevent the confusion that would arise from a frequent repetition of the old name of Katul, since it

Numerous petty streams were diverted from their natural course to furnish an efficient supply to the contemplated work, and a considerable river, the Gyndes of antiquity,* was also absorbed in it on its way to the south.

Of the rise and progress of the canal, history affords us but scanty information. Its origin is ascribed to the wisdom of the renowned Shapur Zalaktaf, and its repairs, improvements, and extension to Khusru† Anushirwan, perhaps the greatest monarch that ever presided over the destinies of the Persian empire. In his time, or more probably in the early annals of the voluptuous Khusru Parviz, it must have attained the height of its celebrity and usefulness. On its banks an agricultural and warlike population had erected villages and towns, and at convenient distances its stream was spanned, either by solid structures or the more handy floating bridges.‡ The adjacent country, plentifully irrigated by lateral cuts from either side of the trunk stream, abounded in date-groves and other trees, that lent their shade to the traveller, for its course was then the high road that led to the south-eastern districts. Expansive fields, that exhibited a perennial verdure, must have moderated in some measure the torrid heats that are now felt, by protecting the soil from the burning suns of the summer months. These fields, studded with the habitations, with the flocks and herds, of a semi-agricultural, semi-pastoral community, must have rendered Arabia-Irak the most valuable district of the Persian crown, from whence, indeed, it derived the greatest portion of its stupendous revenues. Parks and pleasure-grounds, palaces and hunting-seats of the Sassanian monarchs and the nobles of the land served to diversify the glorious scene, whose beauty was further enhanced by the splendid array of the Persian armies, that went forth to combat the legions of Rome, who, since the defeat and death of Julian, on this very soil,§ had sustained a succession of reverses that added much glory to the Persian arms and to the prosperity of the province.

has been usurped by the more modern work that will require mention also. Where this term is used it distinctly applies to the south canal, and is written simply Katul, without the royal title "El Kesrawi." In the map, however, they are represented by the true names.

* The modern Diyaleh and the Tamerrah and Holwan of the Arab geographers. At the time the Nahrwan was in active operation, I presume that most of its water flowed into the Khalis canal and crossed the Nahrwan, or rather Katul, in the present line of its course.

† Kesra Anushirwan is, I believe, the proper form of the monarch's name.

‡ See the MS. of an anonymous writer subsequently quoted. The work is entitled the Kitab el Akalim, and gives a detailed list and description of the canals of Babylonia and Chaldea.

§ The last scene of the Emperor Julian's life must have closed in the immediate neighbourhood of the Nahrwan; and it is not improbable that the disasters the Roman troops experienced in their retreat to the Tigris, on the subsequent day, were owing to the nature of the dikes and the facility they afforded for the concealment of a vigilant enemy.

This prosperity was, however, but short-lived. The latter part of Khusru Parviz's reign brought with it calamity and disgrace. The Romans, led by Heraclius, again recovered a portion of their former energy, and the tide of fortune once more favoured, but for a brief time only, the imperial standard of the west. The Nahrwan was near the scene of conflict, and the final overthrow of the Persian force, that ended in the ignominious flight of the most magnificent of the Sassanian kings, took place in its immediate vicinity. The irruption, indeed, was as sudden as its success was complete, and devastation quickly followed in the wake of the Roman arms. The empire was overrun with foreign troops, who, adopting the barbarian customs, in revenge for the injuries their own country had sustained, wasted the soil, and gratified the spirit with which they were actuated by the destruction of its towns, and particularly of its public edifices. Bridges and canals, doubtless, participated in the general wreck, and we may therefore, I think, identify the epoch with the first decline of the Nahrwan.

Persia, indeed, never again recovered from the blow inflicted on it by the legions of Heraclius; and the Mahomedan conquest of the country, after the decisive battle of Qadesiyeh, must, for a time, have rendered the banks of the Nahrwan a scene of indescribable horrors and confusion. Ctesiphon,* or Madain, the western capital of the empire, in which the splendid palace of its monarchs stood, was now occupied by the rude hordes of the Desert, and the waters of the great Nahrwan, that, prior to the Roman invasion under Heraclius, had contributed only to the peaceful wants of the inhabitants of this part of Arabia-Irak and the enriching of its soil, were a second time mingled with the blood of its panic-stricken and flying people.

Mahomedanism now succeeded to the tenets of Zoroaster in the new territories that the converting sword had acquired, and the naked Arabs that accompanied Syed Ibn Wakas, the general of the Khalif Omer, in his invasion, soon occupied the deserted residences of the dispersed race, not only in the metropolis, but in the villages on the banks of the Nahrwan also.

Under the governments of the lieutenants of the early Khalifs the

* In the Kamil of Ibn Athir we find Ctesiphon written under the form of طيسپون, Tyspun, and as such may claim to be considered as an old Persian name, probably originating with the era of the Parthians. The name has been generally supposed to be Greek. The Arabs, however, seldom copied from them, and in this case it is not improbable that the Greeks procured the appellation of the city from the Parthians or Sassanians. The name is now lost in the country, and, indeed, is seldom seen under this form in the old writers, but generally is mentioned as Madain المدائن a term signifying "the cities," from seven towns having stood on the peninsula occupied by the great palace. The name it is at present known by to the Arabs is Tak Kesra, or "Arch of the Cæsar," from the magnificent arch still standing in the centre of the great palace.

province for a time revived, though the Nahrwan, from its admirably defensive position, became the resort of the disaffected and refractory chiefs. The Khuarij, or rebels against the spiritual authority of the Khalif Ali, here made head against the son-in-law of the prophet, but were defeated in a severe action, termed the battle of Nahrwan,* in A. H. 38, in which, after an immense slaughter, he secured to himself the quiet possession of Arabia-Irak against the power of Ommiyeh, his antagonist in Syria. In the succeeding struggles for the Khalifat, and prior to the rise of the Abbassin dynasty, Arabia-Irak alternately rose and fell amid the dissensions of the followers of the Koran and the religious schisms that threatened to destroy the newly created faith. The rise of the house of Abbas, after the murder of Ali and his ill-fated sons, gave a lengthened peace to the disrupted province, and the founding of Baghdad by Mansur, the second Khalif of that race in the immediate vicinity of the Nahrwan, conduced to the repairs of the canal, and a partial return to its pristine state and usefulness. Under the glorious reign of Harun el Rashid it contributed to swell the revenues of the Khalifat, and to that wise prince is due its repair and augmentation.† At what precise time it ceased to be peopled we have no means of learning, nor, indeed, with the exception of Bakuba and Aberta, can we at present identify a single name out of the numerous catalogue furnished in the following MS., written in about 350 of the Hejira.‡ It says, "From the Tigris is also derived another canal to the eastward, called the Katul, or the Kesrawi. It leaves the Tigris a little below Dur el Harith, and continues its course to the Kasri Mutawakil, which is now usually called Jaferi, where it is spanned by a fine stone bridge. It afterwards flows to Itakhiyeh, where it is also crossed by a bridge named Kantarat§ el Kesrawiyeh. The next place it reaches is Mahummediyeh, where there is a floating bridge or pontoon, termed Jisser el Zowarik. It afterwards continues to the large village of Ajmeh, and below this is Shadrwan. The stream then passes Mamuniyeh (probably built in the time of Khalif Maman), a large village, and reaches next a district called Kanatir, where are many villages and abundance of cultivation; from whence it extends to the villages called Sula and Bakuba. Here it takes the name of Tamerrah, and flows on to Bajisra (Town of Bridge). It next proceeds to the bridge called Jisri Nahrwan,

* From the Kamil of Ibn Athir in the description of the revolt of the Khuarij.

† See Yakut's Majm el Buldan, under the head of Katul.

‡ I am indebted to Major Rawlinson, C.B., for this notice of the Katul and Nahrwan, and, indeed, for much local information regarding them.

§ قنطرة Kantereh signifies a solid bridge built either of brick or stone, while جسر, Jisr, denotes a bridge of boats or pontoons.

قناطر Kanatir is the plural of the former term.

and here it derives its name of Nahrwan. From this it passes, in succession, the Upper Shadrwan, the Jisri Buran, and Aberta. After that it extends to Resatiyeh, and so on to the Lower Shadrwan, which is a flourishing and well-peopled village. It then runs to Askaf beni Joneyd,* an extensive city built on both sides of the canal, which then flows on amid continuous extensive villages, date-groves, and well-cultivated lands, and disembogues into the Tigris, a little below Badrai."

This is a fair picture of the prosperity of the region watered by the Nahrwan, in the time perhaps of the Khalif Mamun, at which period (A. H. 200 = A. D. 822) it could scarcely have recovered from the universal depression caused by the total wreck of a mighty empire like that of the ancient Persian, by the convulsions of a nation struggling to uphold an old religion against the forced doctrines of a new one, maintainable only at the point of the sword, and by the intestine troubles that sprang up among the sectaries of the new faith prior to the peaceful establishment of the Abbassin Khalifs in Irak. It is improbable, indeed, that the Nahrwan ever enjoyed, under the Khalifat, the same advantages of an active superintendence as it did under the matured government of the Shapurs, and, consequently, the district must have attained but a proportionate degree of prosperity, for canals, such as they are—dug for the most part through an alluvial soil, that was experiencing constant sedimentary additions by washings from the uplands above—must have required a periodical dredging, which, under the feverish dominion of the Khalifs, we may imagine was neither regular nor effective.

At the time the extract I have quoted was written, Baghdad, the seat of the supreme power in the east, probably had been founded about two centuries, and, under the government of Harun el Rashid, the fifth Khalif of the Abbassin family, had become the school of literature and science, and the abode of learning, industry, and the arts. Distant but ten geographical miles from the proud city of the Khalif, the Nahrwan doubtless received a portion of the attention that he bestowed upon everything contributing to the welfare of his kingdom, and, indeed, as I have noticed before, the authentic history of Yakut† details its restoration and extension under this prince's administration. Progressive improvement has, however, never been a lasting feature in the history

* The Askaf beni Joneyd were formerly lords of the country. Two towns went by their name on the Nahrwan. The one termed Askafalala, the other Askafal Safleh. They are stated to have both occupied the left bank of the Nahrwan between Baghdad and Wasit by some authors, and are described as having been ruined on the decay of the canal in the time of the Seljuks, owing to the dissensions of the empire and the ravages of the troops. The anonymous MS., however, places these towns on either bank of the Nahrwan. See Yakut's Epitome, and the work of an anonymous writer, entitled the Kitab el Akalim.

† Majm el Buldan, under the chapters Nahrwan and Katul.

of these coveted lands, and, accordingly, we find the successors of Harun embroiled in quarrels with their own guards, who had been hired as mercenaries, and subsequently attained so much power as to oppress the people and threaten a revolt. The constant disturbances, indeed, between the citizens and the soldiery, led Matessem, the eighth Khalif, to abandon Baghdad, and to raise Samarrah, then an obscure village and the *locale* of a military camp in the northern districts of the Nahrwan, to the eminence of a capital. For eighteen years only it held its place as a metropolis, and this short time witnessed the succession of seven Khalifs, three of whom were foully murdered by the strangers to whose fidelity they had entrusted the safety of their persons and the guardianship of the honour of Islam. In the time of such anarchy and confusion, agricultural pursuits and the improvement of the resources of the country must be despaired of. The newly-erected empire was, in fact, on the decline, and the uneasy position of Matamed, the fifteenth Khalif, compelled him to restore to Baghdad the dignities it had been deprived of, by again making it the seat of government. Thus, in the space of three hundred years, a district of ninety miles in extent, only, had been either honoured or deplored as the locality of three capitals, Ctesiphon, Baghdad, and Samarrah, which, for barbaric wealth and architectural adornment, have alternately claimed the admiration of the world.

In the selection of the ground for the latter cities, the Abbassin sovereigns doubtless considered the admirable defensive barrier the artificial Nahrwan presented to the east, and the natural limit of the broad and rapid Tigris to the west. The Nahrwan must have been devised, indeed, by the Sassanian kings for defensive as well as for agricultural purposes, and, deep and rapid as it was, it doubtless served as an efficient outwork to the great capital of Madain, and subsequently to the cities of Baghdad and Samarrah. In the annals of the early campaigns, undertaken by the Greeks and Romans against the Parthians and Sassanians, we find the armies led into Mesopotamia nearly on the route followed by the younger Cyrus and the ten thousand Greeks, either along the banks of the Euphrates, or by descending that rapid river in boats built on its upper course. So long as Seleucia, for a time the Syro-Macedonian capital of Mesopotamia, remained a Greek colony, this road had the advantages of supplies and a friendly people, who, if not inclined to assist the Roman legions in the passage of the Tigris, at least could offer no serious molestation. Subsequently, however, to the destruction of Seleucia, and prior to the ill-fated expedition which Julian led against Ctesiphon, the more northern roads, either by Nisibin and Sinjar, or through Armenia, had been followed by the Roman generals, and a comparatively easy descent had been made, by this route, into the Assyrian plains eastward of the Tigris. At a proper

season,* prior to the construction of the Nahrwan, the streams crossing this portion of Arabia-Irak offered no obstacles to the passage of an army up to the very gates of Ctesiphon, and the mode of defensive warfare, adopted by the ancient Persians, of laying waste the country before the approach of an enemy, became, though self-inflicted, a serious national injury. These considerations, apart from agricultural advantages, were sufficient inducements for an enlightened prince to reflect on the best mode of remedying such formidable evils, and it is not therefore improbable that the Nahrwan owed its construction to these very causes. In whose reign the defensive bulwark was commenced, or to what monarch's sagacity it is due, is uncertain; but the magnitude of its conception and design is worthy of any of the early Sassanian kings, and considering the character of the founder of the dynasty (Ardishir Bebegan, or Artaxerxes†), it might well be ascribed to him. The execution of the great work, however, interrupted as it must have been by the constant wars that were undertaken, may have been deferred until the long peace of forty years‡ was concluded and faithfully kept between the rival nations; and in the protracted reign of Shapur Zalaktaf, according to tradition, we may date, perhaps, the completion and opening of the canal. Unlike the Babylonian vestiges, whose era is traceable by the inscribed characters upon them, the Nahrwan, in its ruins, presents nothing to warrant us assigning it to an age earlier than the Sassanian, though gems and cylinders, peculiar to Babylonia and Assyria, are frequently found in its neighbourhood. These, we may presume, were taken there from Mesopotamia, and may, indeed, have been considered as relics by the Sassanian population of Arabia-Irak, in much the same way as we occasionally meet with them as decorations on the persons of the females and children in Arab families of the present day.

The middle of the ninth century of the Christian era witnessed the decline of the power of the Khalifs of Baghdad, and the next two centuries beheld their empire torn by civil dissension, caused by the oppression of the Government and its soldiery. The distant provinces revolted, and in A. D. 1055 Baghdad itself passed into the hands of the descendants of Seljuk, who had previously made themselves masters of the eastern provinces and the fertile plains then bordering on the

* In September, October, and November.

† See the code of laws instituted by the first Sassanian monarch, where agriculture is deemed the true source of national prosperity.—*Conder's Persia*, p. 94.

‡ Gibbon's Decline and Fall of the Roman Empire. This treaty was enforced on the Persians after they had suffered severe reverses in the reign of Narses, and their humiliation doubtless led them to plant the formidable barrier of the Nahrwan and Katul between themselves and their protected enemy, Tiridates, the neighbouring king of Armenia.

Nahrwan. From this time until the extinction of the sovereign power of the successors of Mahomed,—by the death of Mastasem, the thirty-seventh and last Khalif, who was murdered by Halaku, the grandson of Zengis Khan, on the taking of Baghdad in A. D. 1258,—the greatest disorders had prevailed from the shores of Europe to the banks of the Indus; provincial governors had thrown off their allegiance and were contending with each other for supremacy, while the Seljuks and an insolent soldiery were aiding in the general wreck.

Their retirement and decline had left but a brief period of tranquillity, when the final blow was struck at the territory, and Baghdad fell, never to rise again as the capital of Islam, with the loss of 1,600,000 of its inhabitants, to the powerful Halaku and his invincible Tartars. In A. D. 1401 that scourge of his species, Timur Lenk, visited the fallen province a second time as a conqueror, erecting on the ruins of its city, as a trophy of his prowess, a pyramid of 90,000 heads, shorn from the bodies of its unfortunate people. A century later, a new infliction, in the irruption of the Beni Joneyd hordes, added to the calamities and distress of the persecuted region, which now became incorporated with Persia, under the government of Shah Ismail Sefi. After his defeat, however, by Sultan Selim in A. D. 1514, the territory for the first time yielded to the Turks, but in the reign of Shah Abbas (1603) Baghdad and its dependencies again reverted to the Persian crown, by his successes over the Osmanli forces. In 1638, the Turks recovered possession of the territory, and Baghdad has since remained the capital of a Turkish Pachalic, though Nadir Shah in 1735, and Mahomed Ali Mirza in 1821, respectively, advanced against it with a large army. The former was, however, compelled to raise the siege of the city by the bravery of its garrison, and the latter fell a victim to cholera before he could carry out his designs.

Under the accumulated miseries that a succession of wars and internal anarchy had heaped upon the province and the city, which last, by a singular fortuity and perversion of terms, has been, *par excellence*, denominated the "City of Peace,"* we are not at a loss to account for the decay of its canals. In the dreadful carnage that is recorded to have followed in the footsteps of its various conquerors, we can picture to ourselves the substitution of blood for water, both in the Nahrwan and the Tigris. The sanguinary tide, indeed, while swelling their streams, must have depopulated the villages to whose inhabitants the preservation and repairs of the canal were confided; and as these works, by continuous neglect, contribute annually to their own destruction, we may presume the restoration of the Nahrwan became in time a financial difficulty that the impoverished country could not afford to practise.

* دار السلام Dar el Sellam. The name given to Baghdad at the present day even.

From the Arab writers, we learn, a superstitious fatuity also prevailed that prevented any attempt at re-excavating the canal, for a tradition was handed down to the effect that death was the certain lot of all who were public-spirited enough to essay the task;* and thus has this fine territory, that wants but the labour and skill of man in an era of peace to render it the granary of the east, become a desolate and almost impassable waste. Won by the sword, it attained by blood an illustrious position in the history of the world, and by a just gradation of calamities, inflicted by the same weapon, it has sunk to its present abject condition. Its costly capital, that erst displayed the pride and magnificence of the Khalifs, now a mass of ruins, is misgoverned by an old and insatiate Pacha. Its oppressed people, awed even by an undisciplined military despotism, whose power extends not beyond the circuit of the city walls, are loud in their complaints; and avarice, that prolific source of the national corruption, is fast destroying the remnant that is left. Every succeeding year witnesses a further decay of this fine province, and the few merchants that are left in its towns and cities, subject to constantly increasing imposts, levied for the gratification of individual appetite and not for the improvement of the country, are flying to more prosperous and less exacting regions.

Such is the present aspect of Turkish Arabia, into which I have been inadvertently drawn by a review of its past history. This I have tried to render as concise as possible, to give a greater interest to my researches on the line of the Nahrwan, the dried-up fountain of its former prosperity. We contemplate, indeed, its present aspect with the same eye as a speculating observer would contemplate, after the lapse of centuries, the exhumed, but only partially decayed relics of one of our species, convinced only of the reality that its essence has passed away, while we are lost in vain conjectures as to its name and identity. It is thus with the highly-gifted region once watered by the Nahrwan. We can see in the destruction of the canal that the artery of its existence has been severed, and with it have fled vitality and being. But, beyond this,

* Yakut, in the Majm el Buldan, and other authors, enlarge on the fatality attending those who undertook the repairs of the Nahrwan. The learned geographer named Mooez-ed Doulah Ab'ul Husseyn, and Ahmed ibn Buyeh el Delimi and others, as contributing to these repairs on more than one occasion; but they were never stable, I presume, from their negligent and partial character. When the Nasr el Doulah el Husseyn ibn Ahmed came to Baghdad, he contributed 20,000 Dinars (about £10,000 sterling) towards its restoration, but subsequently abandoned his spirited design, being dissuaded from attempting it by the fatality with which it was connected. So much had the resources of the country degenerated, we find, that in A. H. 326, during the Vizirat of Mahomed ibn Raik el Kufi, the revenue derived from the Nahrwan amounted to no more than £500, or 1,000 Dinars annually, whereas Yakut relates that its revenues, as reported in the time of the Sassanian kings, were equivalent to £500,000 sterling; at present, alas! it yields not a Para to the State.

we have no clue to the identification of its towns and villages; and the name of the race, whom the Arab geographers, in comparatively recent times, describe as the "lords of the country," is as obsolete as that of the structures they inhabited.* "*Sic transit gloria mundi.*"

This brief attempt to assign an origin to, and a cause for, the construction of the Nahrwan, is purely conjectural, and principally founded upon events that are recorded in the obscure notices of the country prior to the Mahomedan conquest; before which time we knew of the existence of the canal only from the letters of the Emperor Heraclius to the Roman Senate, contained in the Paschal Chronicle. We may presume, indeed, that the difficulties of its passage prevented the Emperor from following up his successes by an assault upon Ctesiphon. In these letters, and in the records of Simeon the Logothete, the orthography of the name, according to the notices of it in the learned paper on the Atropatenian Ecbatana, by Major Rawlinson,† is accurately given in the Greek form of Narban, but by Theophanes and Cedrenus as Narba and Arba‡ respectively. At the present day the whole line of the canal bears the name of Nahrwan among the ignorant tribes that wander in its vicinity; but this name, from the authority of Yakut and others, is really applicable only to the portion of the canal that flowed to the south-east of the modern Diyaleh. It is difficult to decide on the construction of the name.

نهر Nahr, in Arabic, is the word applied to all excavated channels for the conveyance of water, but the etymology of the last word is somewhat obscure; وان Wan, in Persian, signifies a "keeper," a "guardian;" and, if a combined Arabic and Persian form be admitted in the construction of proper names, we should have in Nahrwan a not inapt appellation for the protecting bulwark of a large capital like Ctesiphon. Perhaps, indeed, the Arabic word ايوان Iwan, denoting "an alcove" or "hall," applied to the great hall of Khusrus' palace, still standing at Ctesiphon, may have been contracted into وان, and then we should have the more euphonious title of Nahrwan, نهروان for Nahriwan نهرايوان, signifying "the stream of the hall." The former derivation, however, is perhaps the more reasonable, for we find Wan, وان frequently terminating the name of Persian rivers, giving the sense apparently of "boundary" to a district. I may instance the Abi Holwan

* See a former note (p. 38, note*), in which the Beni Joneyd are described as the "lords of the country." These Beni Joneyd, I believe, were the ancestors of Shah Ismail Sefi, and originally possessed the country in the neighbourhood of Diar-beker. The name is now as a dead letter in this part of the world, though they were in power but three centuries ago.

† Royal Geog. Journal, vol. x. part 1, p. 93.

‡ Notwithstanding the Major's protest, made ten years ago, against these corrupted orthographies being used in our maps and works, at the present day I see, by a recent work entitled Ancient History, that these names still disfigure its pages.

and the Abi Shirwan, branches of the Diyaleh bounding the district of Zohab; Yakut,* however, deems the term Wan of Pehlevi origin.

That portion of the canal north-west of the Diyaleh, according to the Arab geographers, was named indifferently Katur or Katul,† thus distinguishing it from the Nahrwan, its continuation south-east of that river. The name Katul, indeed, is still preserved in the country, for we now find it as designating a more recent excavation, running parallel to, at a distance of one mile south, from the original canal of the name.‡ It was opened, it is said, in consequence of the real Katul absorbing all the waters from the regions north-east of its course, without discharging any of the essential article through lateral cuts to the south, and thus rendering the country embraced between the real Katul, the present course of the Diyaleh, and the Tigris, a perfect waste.

The absence of any canals emanating from either bank of the real Katul would show, too, that its waters were required for a more extensive irrigation in the lower country to the south, and, therefore, the upper and more northern excavation must be regarded not only as the most ancient, but must be viewed merely as a trunk or conduit that received but did not dispel its contents, until a point had been reached where they could be distributed with advantage. The lower, or more modern Katul, was evidently dug for a distinct purpose, and not, as has been generally supposed, originally designed to communicate with the Nahrwan,§ but, on the contrary, was in no way connected with it, until

* Majm el Buldan, under the head of Nahrwan.

† See note *, p. 93, Journal Royal Society, vol. x. part 1.

‡ With the usual confusion of the G for the K, it is more frequently called the Gatul by the modern Arabs, and with this orthography it will be recognised in Lieutenant Grounds' able paper on the canals emanating from the Diyaleh. I gladly avail myself of this note to record the assistance I derived from the points fixed in this locality by Lieutenant Grounds, and at the same time to express my obligations to that scientific officer, Captain Henry Blosse Lynch, of the Indian Navy, for generously placing the whole of his valuable papers and geographical records at my disposal. These, when they reach me, will materially aid in my labours, especially in parts of the country where I may not have the same opportunities of visiting as he had.

§ I have, since this was written, changed my opinion on this point, for, in a journey made this month, when the Diyaleh was very low, I have determined the course of both the Katuls on the east of Diyaleh as low as Sifweh. The Katul el Kesrawi was led into the old bed of the Diyaleh as I had previously imagined, indeed as it is described in p. 51 of these preliminary remarks, and the Katul now under consideration is seen contiguous to it, as represented by the map, and evidently led to the Nahrwan after the decay of the former. Their course led over the ground cut through by the modern Diyaleh, whose old bed is distinctly marked to Sifweh, and the point of the canal's junction with it is seen as perfect as ever about one mile west-south-west of the modern Bohriz. The canal on the west of the Diyaleh, that I have erroneously termed a continuation of the lower Katul, is, therefore, only a branch of that conduit that watered the country north of Baghdad between Baghkuba, or Bakubeh, and a place called Khirr el Sifin. It was, however, connected with its trunk stream in several places, particularly at Kidri, where the connection is very plain.

the decay of the original Katul led them, as I suppose, to open a passage from it into the spurious canal, to save the banks of the latter from the destruction that the confined waters of the former would doubtless create. This opening is now distinctly seen connecting the two Katuls close to the spot where the Tigris (from an alteration of its course) has encroached upon them in the neighbourhood of the modern village of Sindiyeh, and the circumstance of their junction has, I presume, continued the name of the canal to the one that was latest in operation. The conformation of the lower Katul would alone show, even had I not traced its course, the purpose for which it was designed, for, while its northern or left bank remains entire, the right one is opened in various places to admit its waters in lateral ducts that overspread the country from the northern Sindiyeh to the point of confluence of the Diyaleh with the Tigris. Here its functions ceased, and the Nahrwan's usefulness came into operation in earlier times, and thus the fertility of the whole district was skilfully provided for. Subsequent, however, to the decay of the real Katul, the modern one of the same name reached to the point of the former's junction with the Nahrwan,* and contributed in some measure to restore the prosperity of the province.

Yakut, in his description of the Katuls, would assign to the name an Arabic etymology from قطع or قطل signifying "a cut," "segment," or "amputation;" and, however ingenious his theory may be, we must, I think, prefer Major Rawlinson's derivation from the older form of Katur, by which name it was originally designated. In his Itinerary of the March of Heraclius, he has satisfactorily shown that the Torna of the Emperor's campaign is identical with the Katur of the Arabian geographers, from the similarity of the terminating syllable of the compound to the names given in the records of Theophanes and Pliny, and supposes the word to have become Arabicised from the Persian "kau" signifying an excavation, and "Tur" the name of a town (now represented by the modern village of "Dur"), from which the canal emanated.† The fact, too, of its existence in the era of the Sassanians warrants the appellation being considered as of Persian origin. By the Arab writers, indeed, the old Katul is designated as the Katul el Kesrawi,‡ or the "Katul of the kings," and is clearly distinct from the spurious or southern Katul, and has now usurped the appella-

* Yakut describes the Katul of Harun el Rashid as joining the Nahrwan at a place called Shadrwan, probably the position of the ruined dam in the bed of the Diyaleh.

† Note * to p. 93 of Royal Geog. Journal before quoted, and in the body of the page itself will be found the interesting dissertation to which I allude.

‡ كسراوى Kesrawi was the royal title of the Sassanian kings of Persia. The singular كسرى Kesra, is evidently analogous to, and probably adopted from the Greek Kaiser or Cæsar. The title is still extant in the Germanic Kaiser, at present borne by the Austrian emperors

tion. The former, I presume, was decayed even in the early era of the Abbasin Khalifs, and the repairs and augmentation the latter underwent, during the sovereignty of Harun el Rashid, are evidently intended, I think, to mark the period when it was conducted to the Nahrwan, joining it at, or very near to, the same point of contact as the original Katul. The Arabs at present state that two dams are still to be seen in the bed of the Diyaleh, the one observable at ordinary low periods being perhaps that constructed as an embankment for the modern Katul, while that visible only in extraordinary shallow seasons may have reference to the more antiquated conduit of the Sassanians.* The name Katul, however, appears to have ceased on both the ancient and modern lines in the vicinity of Bakuba, from whence, to the point of junction with the Nahrwan, on the course of the old Diyaleh river, the canal would seem to have borne the discriminative appellation of Tamerra or Holwan.† The latter name is now applied to a branch of the Diyaleh that joins the trunk stream near Kizbrobat, and the former may be traced, I think, in the present designation of a lateral duct from the Nahrwan, that formerly watered the country north-east of Ctesiphon.

Before entering upon the general geological and geographical description of the tract watered by the combined streams of the Katul el Kesrawi and Nahrwan, I may as well give the description of what I term the spurious and more recent Katul, extracted from the Kitab el Akalim, the work of an anonymous writer, from which the extract

* I have subsequently learned that the two dams here spoken of are connected with each other; indeed, the later one appears to have been merely a repair of the old. The bricks are stamped in relief, that is, inversely to the characters found on the Babylonian vestiges, and the legend upon them (as under) at once proclaims their Mahomedan manufacture.

† Majm el Buldan, under the head of Nahrwan. Tamerra is considered by Yakut as a Syriac term, and would appear to be the name applied to the present Diyaleh, or rather to that portion of it now called the Holwan, extending from the vale of Rijab, at the foot of the Takigerrah Pass as far as Bakuba, and on to the ancient bridge called the Jissri-Nahrwan only. Diyaleh, I believe, is really applicable only to the part that occupies the space between the Nahrwan and the Tigris, and, in the prosperous era of the canal, of course, was not in existence as a river. The term Diyaleh is, perhaps, a corrupted form of Dijleh, the name of the Tigris, by the conversion of the *j* into a *y*, a barbarous but not uncommon interchange of letters; indeed, among the tribes located between Baghdad and Basreh the *j* is hardly ever sounded; in the latter districts this impure form of speech is inharmonious in the extreme, from its frequency in conversation. It is written, however, as Diyala and Diyaleh in the Arabic MSS., and therefore deserves consideration as a distinct name.

quoted in a former part of this paper, on the above canals, was also obtained. After detailing the more ancient conduit, he remarks: "There are, in like manner, three other Katuls,* that are derived from the Tigris by a single source situate two farsakhs below Samarrah, between Matireh and Bez-Guara. This portion is called the Upper; and from it a canal called Yahudi, having on it a bridge named Kantaret Wasaif, extends into the Katul el Kesrawi, a little below Mamuniyeh. The second (Katul) is named Mamuni, and is the middle portion; it flows between villages and fields in the tract called El Suad, and falls into the Katul el Kesrawi below the villages of Kanatir, denominated Abu el Jeyyed. This is the lowest and most considerable, and has well-constructed buildings on its banks. It flows amid cultivation and villages, and, in like manner, many branches emanating from it irrigate the country between it and the east bank of the Tigris. These copious branches reach unto the Tigris. The canal then flows onwards to Tafra, and there it is spanned by a bridge of boats; afterwards it joins the Katul el Kesrawi, four farsakhs above Sula.†

This portion of Arabia-Irak, in its geological features, is eminently adapted for canals. The Tigris, breaking through the Hamrin hills in latitude 35° north, continues a course to the south-south-east for forty-five miles, and then turns abruptly to the eastward in the 34th degree of latitude, along a spur of uplifted siliceous conglomerate, until it meets with the little stream Atheim, in the neighbourhood of which the tertiary formations of the Upper Tigris terminate, and are succeeded by marls and argillaceous plains, which, again, giving place to humus and various alluvia in the vicinity of Mansuriyeh and Bakuba, extend to the Persian Gulf. The superior portion of the Tigris, extending from the first-named latitude as far as Khan Dholöiyeh, is bounded by high cliffs, whose elevation is greatest in immediate contiguity to the river, but dip in an ESE. direction, until met by the south-westerly inclinations from the Hamrin hills. The junction of these opposing declivities forms a gentle but natural valley, conducting from the undulating tertiary beds to the plains. Traces of the last tertiary rock can be distinguished, forming a semi-lunar curve from Dholöiyeh eastwards to the spot where the Atheim breaks through the hills, its convexity attaining an increased elevation as it approaches the foot of the superior range. Below the curve, however, the elevated lands merge imperceptibly into

* From the context this evidently means a single prolonged canal, apportioned into divisions that are named the Upper, the Middle, and the Lower. The Nahrwan will be found in the ancient MSS. to be similarly divided, and I suspect the larger canals throughout Babylonia were thus named in the revenue assessments of the country. The source of these is evidently at El Kaim.

† The names, Mamuniyeh, Kanatir, and Sula, will be found in the description of the Katul el Kesrawi.

marl districts, and the natural valley, before spoken of, is lost in an easy decline to the south-westward, that commences near the hills and terminates in the valley of the Tigris. This vast slope exhibits, on its surface contiguous to the range, parallel local elevations, alternating with the plains, that can be followed to the margin of the alluvia; and along the inferior portion of the vast shelf on the line that divides the marls from the alluvia, conducting from the gentle valley described as formed in the lower tertiary superstratum, is seen the valley of the Nahrwan,* an excavated bed keeping a general straight line to the south-eastward, indented only according to the almost imperceptible deviations of the boundary of the soils, and to avoid local accidental depressions.

Commencing a little to the south-south-east of the modern Dur, in a deep but narrow bed, cut through the compact but coarse conglomerate bordering the valley of the Tigris, the canal resembles, in this its upper course as far south as Samarrah, a precipitous and confined gorge, such as we sometimes see as the effect of earthquakes in rocky and mountainous districts. Unlike, however, to these natural fissures, the traces of artificial labour are observable, not only in the regularity of the walls, but also in the numerous galleries that lead from its bed to the surface of the soil above. With an original depth of probably 50 feet, to enable the waters of the Tigris to flow into its channel at the lowest season of the year, the difficulty of raising the excavated earth, to the surface of the soil above, must have been considerable. The series of galleries, however, though they added to the labour, obviated the difficulty. They are cut through the precipitous scarp at a convenient angle for an easy ascent with a load of the refuse soil, which has been deposited so as to form a protecting bulwark at the edges of the canal. These artificial embankments are now elevated some 15 feet above the level of the country, and are capable of concealing a vast army secure from the missiles of an enemy, and, if acting merely on the defensive, a small force might defy, under cover of the ridge, any power attempting to invade the country, protected by the stream. These embankments also served to conduct the rain-water collected on the neighbouring land along the canal, until convenient openings admitted its mingling with the waters of the Tigris flowing in the bed of the excavation; while, at the same time, they prevented a disruption of the scarp, by opposing its uncontrolled passage over the cliffs by which the canal is bounded.

For a distance of ten miles this gorge-like formation continues, when, having attained a decreased elevation and a softer soil, the banks become less precipitous and are proportionably expanded, from a breadth

* Properly Katul el Kesrawi. See concluding sentence of these remarks, p. 55.

of fifteen yards at the entrance of the canal, to thirty in this vicinity. East of Samarrah, the pebble soil of the surface gradually merges into a marl superstratum, and the canal assumes a less abrupt form of bank, with an increasing breadth. Proceeding onwards for a further ten miles, it is evident the general level of the country is attained, and that the bed of the canal must have been on a plane with the surrounding soil, whilst its waters required to be confined by strong upraised embankments. This was its weakest point, for the waters flowing in its channel had not only to be confined, but the banks from without were subjected to the pressure of the collected torrents of winter accumulating in this part, from the elevated rocky country to the north and north-east. This is apparent from the present aspect of this portion of the country, and the almost entire obliteration of the canal here has been the consequence of a neglected repair. Deep cracks, that are scarcely fordable in heavy rains, at present cut through the old course of the aqueduct, and at once show the labour that must have been requisite to maintain its efficiency. In the vicinity of Khan Dholöiyeh the country again sinks, and the pebbly region is entirely lost. Here the before scarcely traceable outline of the canal becomes well developed, but with a breadth now amounting to 100 yards, and its bed slightly below the level of the plains. This increase of breadth was manifestly demanded to render the canal capable of receiving the winter and spring contributions, themselves forming a considerable body, in addition to the periodical rises of the Tigris at these seasons of the year; and, as its waters rolled onwards to Bakuba,* through the loamy and argillaceous formations below the tertiary tracts, we find the bed at the present day averaging a width from 100 to 140 yards, which, when full, must have presented the appearance of a considerable river. The extent of the drainage, from the uplands above, in this part of its course, is at once seen in the numerous broad and deep beds of torrents, or Khirrs, as they are termed, that now find their way into the Tigris. To these were added the waters of the Atheim, which, though a petty rivulet in summer, becomes in the winter months a brawling stream, frequently impassable by caravans. This crossed the course of the Nahrwan, and, therefore, to prevent injury to the canal by the uncertain shifting of its stream, it became requisite to confine its waters in the hilly regions above. We accordingly see, in the remains of a magnificent dam, the energy of a former age. Constructed across the gorge in the Hamrin hills, through which the Atheim forces itself, the dike prevented the waters from flowing in

* It should be Baghkuba, for it is written so بغقوبا in the old Arab MSS. I have retained the orthography of our present maps, however, for it answers sufficiently well for the present Arab pronunciation, and for the identity of the place. It is evidently a word of Persian origin, and is found Arabicised in the more modern MSS. into Bakuba.

their natural channel, and at the same time raised them to a height that permitted their dispersion through canals, skilfully cut on either side of the obstruction, over the elevated country adjoining the dam. These, at present named Nahr Batt and Nahr Rathan, flowed through villages and fields that were dependent on them for existence, onwards in a south-south-west direction, and finally emptied their superfluous waters into the Nahrwan* itself: The place of confluence of the former is distinctly evident; the latter, however, is somewhat dubious, and, though it is reported to have joined the Nahrwan, I am of opinion that the Nahr Rathan never contributed to the augmentation of its waters, but was entirely absorbed in irrigating the extensive plain of Gharfeh, now a desert tract lying between the Atheim, the Khalis canal, and the Dijleh, or Tigris. The neighbourhood of the junction of the Batt with the main excavation is prolific in ruined sites, and otherwise one of great interest: the Journal, however, will enter into a further detail.

Immediately below Bakuba, the course of the present Diyaleh turns more to the south, owing to the loam superstratum here taking this direction; and the Nahrwan's bed† is seen also a little east of it, running in a direction parallel to the course of the modern river, which, in ancient times, was either entirely absorbed in the canal, or contributed its superfluous waters only to the general stock. Judging from the smallness of the bed of the ancient stream,‡ and the present magnitude of the Diyaleh, we are surprised at the disparity, when we reflect that the Tigris, the Atheim, and the collected winter-rains, all furnished to the supply of the canal, in addition to the waters of that stream. The cause is, however, obvious, if we consider the great length of the Nahrwan, and the number of lateral ducts that emanated like veins from the great artery a little further to the south. These, irrigating an extensive tract of country on either side of the Nahrwan, acted as constant absorbents. We may infer, too, from ancient history, and from the vestiges of canals, still seen in the upper course of the Diyaleh, that a small portion only of its waters was allowed to find its way then into the Nahrwan, for it traversed a densely populated territory, whose inhabitants were fully sensible of the value of the element, which must, indeed, have been carefully distributed by them over the inclined plains that lie extended between the Hamrin hills and the course of the Nahrwan. I am inclined even to the opinion that the Diyaleh never reached so far as the limit of the canal when this work was designed, but believe that the main object contemplated by the Sassanian kings was the

* Properly Katul el Kesrawi. See last page (55) of these preliminary remarks.

† This is undoubtedly the old bed that the Diyaleh occupied in the early ages, and the same as that mentioned in p. 51 and in the note to p. 44.

‡ The Tamerra of the old Arab MSS.

conducting a new stream into the Tamerra, or ancient bed of the Diyaleh, which had been dry for ages consequent on an extensive system of irrigation that had been adopted in a remote period;* and am more confirmed in this view of the case, from the circumstance of a portion of the work between Dur and Bakuba exhibiting the decided features of artificial construction, evident in continuous straight lines, and embankments elevated considerably above the country, while the course of the ancient bed south of Bakuba is no less decidedly marked by the sinuosities of a natural fluviant as far south as the modern Sifweh. Here, however, it became necessary to turn the direction of the new stream more to the south-eastward for the fulfilment of the purpose for which it was designed, and to prevent it following its natural course, as it does now, unprofitably, into the Tigris. At Sifweh the boundary of the marls and alluvia is attained, and the line of the varying soils stretches faintly to the south-east. The designer of the canal evidently well studied his subject, and we accordingly see, at low periods of the Diyaleh, a solid brick structure, in the present bed of the river, that obviously gave a new direction to the stream; for it acted as a barrier to its further passage on the line of its old course, and, in fact, diverted it into its new bed, which, kept just within the inferior margin of the argillaceous tract, was, from its slightly superior elevation to the alluvial district, capable of dispensing its waters over the adjoining country with the least amount of manual labour to the cultivator. The nature of the soil, too, admitted of tenacious embankments, and the lateral ducts, extending from the right bank of the stream towards the capital of Ctesiphon, show distinctly enough that here its real usefulness for agricultural purposes commenced. It was here, too, that its name, Nahrwan, strictly applied only, and the town that bore the name of the canal stood somewhere in the vicinity, either represented at present by the modern title of Sifweh, or more probably by the favourite appellation of Mismai,† now attached to a ruined Sassanian fortress, that was doubtless the keep of one of the many towns that we know existed on the insulated tract, occupied also by the capital.

Though, for reasons that will be given, I have adopted the name of Nahrwan, as it at present exists in the country, for the whole line of canal from Dur to Kut el Amareh, in treating of its more ancient history

* The Diyaleh Holwan, or Tamerra, is generally recognised as the Gyndes of antiquity; and allowing Herodotus' version of the story regarding it to be the true one, the wrath of the great Cyrus would have left but a scanty supply of water in its lower course. See also note p. 44.

† This name, from its constant recurrence in many parts of Arabia-Irak, would appear to have been esteemed by the early Arabs. I do not know, nor can I find any meaning or etymology for the term.

it must be borne in mind that the part south-east of the Diyaleh is the *true Nahrwan only*. It extended, according to the prevailing traditions, as far as the Persian Gulf, but I do not find any notices in the Arab geographies * of its progress further south than Badrai and the Tigris, east of Kut. It is not improbable, indeed, that it had a more extended course, but successive inundations have so levelled the plains to the south, that it appears hopeless to trace its limits any further than the present bed of the Tigris in the neighbourhood of the above places. When a convenient opportunity offers of visiting the disturbed and somewhat dangerous tract of country situated south of the great bend that the Tigris here makes to the east-north-east, between its old bed at Wasit and its present course in the Amareh bed, I shall endeavour to give some further account of it. The part, however, that is particularised as the Nahrwan by the geographers, was, by the ancient accounts, divided in the revenue allotments into distinct districts, termed the Upper, Middle, and Lower Nahrwan,† and we find these several tracts recorded as forming a part of the country that was allotted by Kesra Anushirwan to the support of his newly created town, built to commemorate his Syrian conquests, and appropriated exclusively for the accommodation of the captives that he had deported from Antioch, then the Christian capital of the east. This city the monarch named Khusru Antakiyeh,‡ in honour of himself, and in consideration for his Christian prisoners. The city was constructed so as to resemble the Syrian metropolis in its streets, theatres, and public baths, and, with an allowance for the usual oriental hyperbole, is represented to have been so skilfully modelled that the captives themselves had no difficulty in recognising their respective homes. As a further comfort, he placed over the town, as a governor, a certain Christian of Ahwaz that had the confidence of the monarch, in order that the inhabitants of the Christian city might enjoy, unmolested, the prescribed doctrines of their faith. The identity of its position, at the present time, is a very doubtful point, and by some its site is thought to be to the west of the Tigris, whereas, I think the fact of the Nahrwan districts being accorded to its maintenance would imply its being founded to the east of the Tigris, and, doubtless, in the immediate neighbourhood of the canal. I hope at some future time to give a clue to its position, and to many others also; for the alluvial districts watered by the Nahrwan awaken curiosity as to the fate and identity of some of the earliest Christian settlements. The ancient

* There is a canal, termed the Nahrban, mentioned as derived from the Tigris below Wasit, but I believe it has no connection with the Nahrwan under consideration.

† Majm el Buldan of Yakut.

‡ It bore also, according to the Kamil of Ibn Athir, the designation of Rumiyeh, or "abode of the Greeks," as a more general term. The Nahrwan then yielded to the State a revenue of £500,000 sterling, or 1,000,000 Dinars.—*Yakut* under the head of Nahrwan.

records teem with notices of these Christian colonies,* which, from the tyranny of the age, existed but for brief periods. Meteor-like, indeed, they rose luminous and bright; for a time they spread a light over the darkened land, and the evanescent traces of their career are yet faintly visible in the debased stock that forms the Christian population of Basreh, Baghdad, and Moṣul.

The district through which the Katuls and Nahrwan flowed is now a wilderness, and where erst the "busy hum of men" was heard, at present the silence of the grave predominates. The seemingly arid tract, that formerly was a sea of verdure, is untenanted, and, except in the spring season, when nature rejoices for a time in her flowered garb, is untraversed by man or beast. At this time, however, the predatory Arab and the jackal alike, in their pursuits, lurk among the broken mounds for the passing caravan that now winds along the bed of the ancient canal, which affords for a month or two a scanty supply of rain-water and a sufficiency of pasture to induce the owners of the laden beasts to risk their charge by following the line of its course, and thus to shorten the duration of their journey to the city. To others, indeed, the existence of the Nahrwan, although in the immediate vicinity of Baghdad, is scarcely known. The Pachas and Turkish dignitaries frequently cross its bed in ignorance of its name and its purpose, and though that portion south-east of the Diyaleh is capable of being re-opened, so as to receive the contents of that river with but little outlay, we see no attempt made for so desirable an end, though the foundation of the ancient dam still exists, and though the Pachalic has enjoyed a comparative tranquillity for the last thirty years. The baneful system of farming the governments of the provinces to the highest bidder is the chief cause of non-progression in the improvement of the country. The Pacha-proprietor knows that he holds his tenure for a stated period only, and, considering he has paid for his "whistle," he is hardly wrong in trying to extract from it as much as he can without any additional outlay. Oppression, and every other nefarious artifice, is resorted to to swell the revenue for the time being, which, not being State property, is greedily gathered by the farmer, whose time is entirely spent in contemplating the probable amount he can squeeze from the country previous to the arrival of a successor, who, by a more liberal offer, in the next State auction, is enabled to thrust the occupant from his seat,

* Major Rawlinson's valuable library contains abundant references to these early settlements. They are, however, so varied and diffused, and are written, moreover, in such a Babel-like variety of tongues, that few, beyond the learned owner, have talent enough to extract and compile a history from the chaotic mass. The difficult task he has, however, undertaken, and, when complete, will doubtless afford to the explorer of these regions a valuable guide to the recovery of lost sites, and to a more perfect knowledge of the comparative geography of this highly interesting country.

and comes, armed with new devices and a rapacious crew, to exact a usurious return for his purchase-money. From the rapacity of these unblushing ministers, the troops are kept also in arrears for a period sometimes amounting to as much as nine or ten months, and a threatened mutiny then succeeds so far as to obtain for them one month's pay in the four,—and this is raised, not without every device being practised to show the poverty of the treasury, by obtaining loans from merchants at a convenient interest, although each month witnesses a valuable freight of gold on its way to the private banker, or agent of the minister, residing at Constantinople. The country is thus constantly impoverished, and, unless a less selfish policy be promptly adopted, by the appointment of some patriotic Pacha to the office, it will soon be destroyed; for, in addition to the evils I have enumerated, the rivers and canals, uncontrolled and unrepaired, are committing annually such ravages that a profuse expenditure will not redeem;* and, moreover, the fine and classic streams themselves are becoming every day less navigable, from their having found so many outlets in their lower course. These now receive the greater portion of the current, and new deposits are thus constantly forming in the old channels, that threaten to obliterate their ancient beds; and, unfortunately for Turkey, the Tigris's new direction tends towards the Persian territory, while the destruction of the lower course of the Euphrates has converted the rich Ottoman lands on either side of it into impassable and pestilential marshes. I am, however, wandering from my subject; but in contemplating the decay of the magnificent canals that I have traversed, the mind will revert to the general wreck that is, with rapid strides, still advancing on the region endeared to the traveller and the historian. That it is near at hand, no one will doubt who has witnessed the deplorable state of the Tigris and Euphrates, in their lower course, at the present day. Until recently, the tribes were compelled to keep the waters within their due bounds, but the neglect of the last few years, coupled with the inordinate desire for riches, in the local governor and his subordinates, has given the uncontrolled waters a liberty they are fast availing themselves of, to the destruction of their navigability and the disruption of the adjoining lands: in fact, if matters are allowed to take their course by a further period of inactivity, we may look forward to the speedy fulfilment of the prophecy, which, indeed, so far as the Euphrates is concerned, may be said to have been already verified; for that noble river is converted

* Notwithstanding the improved condition of the Turkish regular army, it is lamentable to record that, in the numerous bodies that have lately visited this part of the empire, not a single engineer officer is found capable of conducting the most simple part of the duty of his profession; and civil engineers, for the superintendence of the erection of dams in a country so much requiring them, are deemed altogether both superfluous and expensive.

into "pools of water," it being navigable for boats between Suk-i-Sheyukh and Basreh during the spring season of the year only; while the Tigris, the single high-road now open for the introduction of our Indian commerce, is fast advancing to the same state of degradation.

The foregoing remarks will convey but a vague historical view of the territory of the Nahrwan, and the once flourishing canal itself. A greater interest will, perhaps, be excited by a perusal of its present aspect, from notes connected with my operations on the line of its course. I therefore append the Journal of my several visits, together with a Map constructed from the numerous observations made along its deserted track. These, both astronomical and geodætical, it is hoped, will fill a gap in the large tract of our geographical uncertainty. It must be borne in mind, however, that, as mentioned in the note at p. 34, NAHRWAN, both in the Journal and in these preliminary remarks, except when treating of its more ancient appellations, has reference to the whole line of canal from Dur on the Upper, to Kut el Amareh on the Lower Tigris; for, in the present day, its ancient names of Katul el Kesrawi and Tamerra have been lost in the more general appellation of Nahrwan, and I have accordingly adopted the term, though an erroneous one, to prevent the confusion that would arise from a frequent repetition of the old name of Katul, since it has been usurped by the more modern work that will require mention also. Where this term is used, it distinctly applies to the south canal, and is written simply Katul, without the royal title "El Kesrawi." In the map, however, they are represented by the true names.

NARRATIVE OF A JOURNEY

UNDERTAKEN BY COMMANDER FELIX JONES, I.N.,

IN APRIL 1848,

FOR DETERMINING THE TRACK OF THE ANCIENT NAHRWAN CANAL.

I had long been desirous of ascertaining the true course of this gigantic work, which tradition and history but vaguely assign to the wisdom of the Sassanian kings of Persia. The state of the tribes contiguous to its deserted track, the want of water in the region that it formerly so

abundantly supplied, and other avocations, however, prevented me visiting it until the spring of 1848, when circumstances permitted my absenting myself for a short time. In April, therefore, I took advantage of a period of tranquillity among the Arab tribes, who had been temporarily drawn from the south into the neighbourhood of Baghdad, to suit some design of the Turkish Government, and had left the districts south-east of the Diyaleh, as far as Kut el Amareh, an unpeopled wild. This, in many respects, was a fitting moment to visit the interior, and, having made arrangements with my friend Sheikh Subba, the chief of the latter hamlet, who had previously learned that we might count upon obtaining water in the bed of the old canal, commenced my journey.

The party consisted of Sheikh Subba, and a holy but ragged Syud from Dahliyeh, with whom I had made a tolerable acquaintance, and who would not suffer me to go without him, his sanctity being required to protect me, as he stated, though I was fully aware his chief considerations were a desire to share in the dates and tobacco that I had provided for the party on the journey, and to remain as my guest so long as it should be convenient for him to remain in Baghdad. These two acted as guides, and with two Turkish guards, a servant, a tent-pitcher, and two Arabs of Kut for the care of the cattle, besides myself, the number was made up to nine. At Kut I hired animals for the party, as well as to carry a small tent, the provisions, and some water-skins; for, until we reached the Nahrwan, it was certain that no water existed between the Tigris and the streams emanating from the hills in the neighbourhood of Mendalli. We were all armed sufficiently well to oppose any small predatory parties we might meet, and, in addition to a double-barrelled pistol, I carried in my belt a prismatic compass by Troughton, and a chronometer. A sextant and artificial horizon were conveniently stowed, to escape observation, on either side of the saddle of the broadest member of the party, whose loose and ample dress in a great measure concealed them from a too prying curiosity. A Schmalcalder's repeating theodolite lay snug in the folds of the Bechoba tent, and its tripod was so arranged among the sticks as to be deemed a part of its appendages.

For the purpose of discovering any traces of the Nahrwan, or of its branches, which the ancient geographers relate extended to the Tigris below Badrai, I determined on crossing a part of the solitude towards the modern village of Jessan in a direction north from Kut el Amareh, especially as Sheikh Subba had previously informed me that a few faint lines could still be traced in the intervening country. I accordingly left Kut at 1.10, chronometer time,* in a direction of 327°. At

* *April 21st.*—As I could not well carry a watch, in addition to the chronometer, the latter's times are given throughout the Journal. These have no reference whatever to the

a distance of 100 yards only from the Tigris the most desolate wilderness is at once entered, and the fact of the presence of the broad and rapid river within a stone's throw of one, is, as it were, a dream. No natural verdure or cultivation marks the element so close at hand, though a progress of a mile and a half places the traveller on a spot radiating with lines that were formerly copiously filled from the great reservoir by the energy of the dispersed races that occupied the territory. The comparison, indeed, between fertility and barrenness, between modern apathy and the laborious vigour of a prior age, is nowhere, I believe, so well marked on the map of nature, as it is near Kut el Amareh. At the spot alluded to, which I reached at 1.45, a long canal, coming from a due north direction (probably connected with the Gathir el Rishadeh prolongation, which I shall subsequently speak of), meets another canal running at right angles with it from the Tigris, on the west of Kut el Amareh, directly across the peninsula, and joining the Tigris again to the east of the village, where its banks have been broken through by the river, since it left the old bed near Wasit and occupied its present course.* The spot at which these canals cross each other is also marked by a high mound, called Ishan el Kut,† doubtless covering the remains of some large edifice that stood at the confluence of the streams, and the thickly scattered fragments of brick and pottery show that a considerable village occupied the site also. The canals are at present called Khiyut el Kut,‡ and a branch can be faintly traced leading towards the modern village. My friend Sheikh Subba was particularly enthusiastic in his topographical description of the locality, and affirmed with an oath that the patriarch Abraham resided at the spot, and, moreover, pointed out even where he had constructed his Sirdab, or summer apartment. Such is, however, the tradition of the country, and some similar tale will be found attached to nearly every petty mound that the traveller passes. They serve well enough to amuse the monotonous hours spent upon horseback, but are worthy of no credence whatever.

real time of the day, but are merely here given for obtaining approximate distances by the employment of the intervals.

The chronometer was, however, slow of the mean time at Kut el Amareh on the previous day a quantity of 4h. 46m. 1s. 4t., and its daily rate of gain was 10s. 8t. in the interval of absence on the journey. The true diurnal periods are, therefore, easily ascertained.

* I believe the elevated mounds of this canal to be connected with the high mounds termed "El Sinn," now on the west or opposite bank of the river, but I must leave this for subsequent verification.

† This is a *patois* of the Kut territory for Nishan el Kut. The term signifies "Index" or "Landmark of Kut."

‡ Khayt (خيط) in the Arabic properly signifies "a thread," but is applied also to any extended lines, such as walls or banks of canals. Khiyut is here used as the plural.

Leaving the mounds at 1.50, a course of 260° was pursued, to the east bank of the Tigris, which was reached in forty minutes. Here I came upon the line of another ancient canal, coming from a direction of 310°, and broken by the Tigris at this embayment of the river. Keeping in the canal on a line with the above bearing for ten minutes, its direction altered to 277°, with well-defined banks, and a bed of 30 yards in breadth. At 3.0 a branch was passed, taking a course of 207°, apparently in a direct line through the alluvial peninsula, formed by the curves of the Tigris. From this the line of the original canal again resumed its course of 300°. In half an hour an offshoot was passed extending on a bearing of 60°, and at 3.55 all further traces were swept away by the encroachment of the Tigris, which is now close to. Suspecting, from the direction of the bank of the river, that the canal would again be met with at no great distance, the Tigris was skirted as far as the ruins of Jumbil. This I reached at 4.50. A considerable town flourished here in ancient times, on the left bank of the Tigris, and, so little as fifteen years ago, some portion of its ruins was to be seen on the bank. Since then, however, the ravages of the stream have swept these vestiges away, and nothing but a mass of brickwork (part of a very solid structure) remains to point out the locality.

This is to be seen only at intervals during the low seasons of the year, and is, indeed, more often buried in the body of an island formed by the deposits after the spring rises.* About a mile to the west of the site of the town, however, the canals are again met with, and at a point of confluence I observed that one branch led towards the lost city, and its opposite portion appeared to extend to the Tigris in a W. by N. direction, while a lateral duct, extending in a line of 197°, watered the peninsula formed between the bends of the Tigris to the south. These canals would also appear to have been dependent for their supply from a larger conduit, situate on the somewhat more elevated land adjoining the position of Jumbil; for two feeders, running parallel to each other, and coming from a direction of 13°, are evidence in favour of it, and I accordingly presume that a large canal, marked on the map as the Shaour, was the line from whence these derived their supply in the flourishing period of the Nahrwan. Yakut, in his Epitome, relates that when the Tigris first changed its course, from the Amareh to the Wasit bed, the lower part of the Nahrwan became choked, so that its waters were either forced or were conducted into the Tigris somewhere in the neighbourhood of Jumbil ;† and that subsequently to

* The ruin is now visible in the centre of the river, September 1849.

† In the Arab MSS. the name of this town is Jebel. The modern Arabs have converted it into Jumbil, but there is no question of the identity of the place.

this, owing to further obstructions* in the upper part of the Narhwan's course, it failed in reaching even this point, and that eventually it was carried into the Tigris in the vicinity of Jarjaraiyeh.

Above Jarjaraiyeh no considerable part of the Nahrwan ever reached the Tigris. The remnants, indeed, yet tell us there was an extensive system of irrigation pursued even at this distance from the capital, but it is now almost impossible to give a defined shape to the lines of these aqueducts, which, in the vicinity of the Tigris, traverse each other in a multitude of fantastic ways, and, indeed, with a little repair, might again serve the purposes for which they were originally designed ; or (as a thought struck me), filled up and raised considerably above the level plains adjoining them, their beds would answer admirably well for rail-road embankments, and, indeed, with a careful levelling, were the soil a little more hard, would be found well enough adapted as viaducts for engines in their present state.

After finishing my observations on the canals in the vicinity, I left Jumbil, and returned again to Kut el Amareh by the same road, in order to follow up, on the morrow, the examination of the canal coming from the north towards the Nishan el Kut. In many places adjacent to the river the country was covered with a rich carpet of grass. This verdure is, however, but partial, for there is evidently much nitre in the soil, as is generally the case in the vicinity of ancient sites. In the neighbourhood of old and densely-populated cities, the abundance is very striking. The prettier spots of green, enamelled as they were with a variety of flowers, exhilarated the Arabs of the party, and called from them comparisons disparaging to town life by no means agreeable to the more grave citizens that accompanied me. Though fast waning in years, Sheikh Subba enlarged upon the blessings of polygamy, a green sward, and the pure Desert air. Already in the possession of the full measure of his happiness in the first respect, as allowed him by the Koran, he could not help, in the exuberance of his spirits, confiding to me the secret of his being in love with a young maiden whose tribe was encamped near to Jumbil, and whom he had hoped to see filling the family water-skins on the bank of the river. The old sinner was, however, disappointed on this occasion, and sank into silence as we approached the tents in which three of the matrons whom he had espoused held their court. Reflecting on the scene that would attend his declaration of divorce, he reined up his steed to a walking pace, and proceeded onwards in a moody humour, far different to that of the previous half hour. On reaching the capacious tent of the Sheikh, we found a goodly assembly of the tribe, and visitors that were guests for the even-

* Evidently alluding to the progressive decay from the constant wars and neglected repairs mentioned in the preliminary part of this paper.

ing; for this is the general halting-place for travellers on the way from Suki Sheukh and Basreh to Baghdad. The embers of three fires that occupied the centre of the tent, surmounted as they were by some huge coffee-pots, bespoke the nature of the beverage that was preparing for the collected circle around. A greasy carpet, that had served the "lion"* and his ancestors for many a day, with a befitting pillow,—heir-looms of the family,—were placed against the pole at the head of the tent. These were occupied by the Sheikh and myself; and, after the usual salutations, the conversation turned upon the state of the country, the Government, and the crops, the usual themes of Arab conclaves. They, one and all, complain aloud of the parsimony of the present Pacha, and the rapacity of his agents,—which, indeed, is the chief topic heard from the Persian Gulf to Mosul.

Finding I could elicit no true information of interest on the subject of the canals,† I took leave of the assembly, and spread my carpet at a distance on the bank of the river, where, unmolested, I obtained some good observations of *a* Canis Majoris (Sirius), for testing the performances of my travelling chronometer. The attacks of mosquitoes throughout the night were terrific, and sleep, though so much needed, absent from every one of the party.

The following morning, at day-break, we were again in full march. The appearance of our nags was, however, very dispiriting, for, like Pharaoh's lean kine, they displayed more rib than flesh, and, indeed, more bone than sinew. Yesterday's short journey had awakened me to the discomforts in store, travelling on such jaded beasts,—but complaint was useless, for better were not obtainable; and thus, consoling ourselves, we jogged along at a tortoise pace to the Nishan el Kut mounds. Quitting these at 1.15, C.T., we rode along the line of a canal that tends due north,—but, at a distance of two miles from the station we left, its further traces are lost in a boundless flat, evidently

* The nomenclature in Arab families is sometimes very remarkable, and is the more surprising when we witness a complete generation named after members of the brute creation, particular species of which are held by them in abhorrence, and are pronounced as unclean by the Koran. For instance, my friend the chief is named Subba, or "lion"; his father was Khanzir, or "the pig"; and Dhubba, "the hyena," was the title of his grandfather. He had, besides, two uncles, named respectively Dhib, "the wolf," and Bazuneh, "the cat," so that, when congregated together under one tent, they must have formed a respectable menagerie. The present Sheikh, however, having attained to the majestic title at the head of the list, is disinclined to descend again in the scale, and has wisely given to his son the name of Mahomed, which, according to their ideas, pertained to the best and the most holy of the human race.

† The endeavour to obtain authentic information of any kind relative to the occurrences and events of the present age, from the Arab tribes, is almost an idle and hopeless task. With antiquarian lore they are quite unacquainted, or so mixed is the tale obtained from them with local and frivolous traditions, that for critical research it is, in most instances, quite valueless to the geographer.

frequently submerged. Its aspect, indeed, bespeaks it as the limit of the bed of a vast lake, and the absence of all vegetation on the dreary waste, covered as it is with an efflorescent salt, renders its expanse very painful to the eye. Neither road nor foot-track relieves its monotony, and only in the tiny imprints of the antelope's hoof can we connect it with the abode of animated life. We however pushed along in a direction of true north, and at five miles distant from our starting-point, we crossed the faint lines of an ancient canal, discernible only by the deep straight line of its bed being filled with rushes, and a thorny shrub with a dark green leaf that I afterwards found was peculiar to old water channels.

The remnants of this canal, called now Ghathir el Reshadeh, extend to the NW. in a line of 329° to the SE. ; they bisect 110° ; it is said to fall into the Tigris by the outlets of the marsh termed Uml Khanzir, a little to the NW. of the ruined enclosure of Hasseyn Khan Faïli.

After a ten minutes' delay for the bearings, we resumed our course as before, and so long as the bushes on the Ghathir el Reshadeh were in sight, we were enabled to judge of our line of direction correctly enough. This was 355°. These marks, however, were soon lost to view, and the soil, becoming more humid and soft, compelled us to deviate occasionally. At the twelfth mile of our progress a swamp, called Suweycheh, or Bahri Ruz, with a small rill of clear salt water running through it to the SE., obstructed our direct passage, and obliged us to make a detour. Here our beasts failed us, for they had not strength to carry anything beyond their own carcases through a marsh like this. By wading and supporting the weak, however, with the theodolite tripod placed under the stomach, we managed, after a hard struggle, to clear the marshy tract, but not without abandoning a couple of the miserable animals in the middle of it. The day was calm, and the sun insupportably hot, with a glare from the salt exudations quite distressing. Our skins of water had been exhausted in trying to refresh the worn-out cattle, so as to give them more strength for struggling with the mud, and we now felt the want of the precious element ourselves. To add to our mortification, the country on the other side of the salt stream did not improve, but bore the traces of recent submersion, and the superstratum of the soil, though harsh, dry, and crackling, broke beneath the horses' feet, and exposed an under surface of a black and tenacious morass, so harassing to the poor beasts that the riders were frequently compelled to dismount. Thirsty and fatigued, we continued to struggle onwards in a more NE. direction, having faint hopes of meeting some drinkable rain-water in the Mari canal. As the day advanced, however, the heat became more oppressive, and the strong of the party, finding it useless to wait upon the weaker

beasts, pushed on over the desolate tract, leaving them to follow at their leisure on the footmarks of the more advanced. As they dropped one by one, I despaired of seeing them again; but it seems the Arabs were more confident, and left them lying with their loads on, in their muddy beds, until they should recover strength enough to pursue the journey. At 9.10, to my great relief, we gained the ancient bed of the Mari canal, but, alas! there was no water. This was distressing, and I was urged by Sheikh Subba to proceed onwards at once to the Jessan stream, named by the Arabs the Chakha, a further distance of two hours. As I had, however, come through the sterile wild merely to ascertain the position of this canal, I would not move further, but, spreading my carpet in the green bed of the Mari, desired the Arabs to leave the baggage and proceed onwards to water the cattle, and return to me with a supply in the skins. This they did, and I was left alone until they returned. I occupied the time, however, in taking double altitudes for latitude and longitude, and in the evening I procured a meridian altitude of *a* Ursæ Majoris (Dubhe). These gave its position as 32° 51′ 07″ N., and in meridional distance 3′ 36″ east of Kut el Amareh.

A line of oases is all that is left to mark the site of this canal, which the Arabs state, from traditional hearsay, to have been formerly a magnificent stream. Its bed is but faintly marked, indeed, for a canal, but, to those accustomed to their traces, the verdure in the elevated bed sufficiently identifies its purpose, even did the straightness of its course not proclaim it as a lost branch of some great aqueduct, which, though since surrounded by salt streams that have undermined and swept away its banks, exhibits, as the Arabs say, a perennial vegetation, caused, I imagine, by its slightly superior elevation placing it out of the influence of the saline taint. While all around, as far as the eye can penetrate, is a wilderness of salt incrustations, it is refreshing to be seated on a rich sward of a few yards in breadth only, intermingled with flowers and the taller evergreens that I have mentioned as peculiar to old water channels; nor, unless it be occasioned by the elevated ridge of the old course absorbing the copious dews which hover over salt tracts, can I ascribe a cause to such a phenomenon in nature. Doubtless in the heavy rains of winter, the hollows collect a great quantity of water, which they retain, from the greater specific gravity of the salt fluid of the adjoining lakes not allowing the lighter body to percolate. This is maintained in the line of the canal, probably, and, in connection with the dews, may account for the abundant verdure. As tradition has it, a large town formerly existed in the neighbourhood of the canal, whose people, indeed, ruled over the whole of the contiguous territory. They were subjugated by one Mehdi, who is represented not only as a powerful

chief,* but as a proprietor of vast herds of cattle. This personage, as the story goes, came from the south, and, finding the Mari people frustrated his attempts to take the city, he conceived the design of cutting off the supply of water from the inhabitants. This he effected by the destruction of the present canal, and the town, as a matter of course, soon afterwards surrendered. The victor wreaked his vengeance on the brave inhabitants by cutting their throats in cold blood, and by razing the city itself. The present and neighbouring town of Jessan is said to have arisen some centuries ago on the ruins of Mari, and the descendants of its fated people are even distinguished at this day as the Ahl el Mari, or the "Mari family," among the inhabitants of Badrai and Jessan. The older houses, too, in Jessan, are said still to bear in their construction the trees that were removed from the Mari† gardens.

The direction the canal takes to the west is 285°, and to the east 65°: the latter bearing would induce me to believe that it derived its water from the present Jessan stream, while the former evidently points to the Nahrwan. It is, however, idle speculating on the small traces that are left, for the almost annual submersion of the country in later times has swept away all further signs whereby it might be identified.

The absence of fresh water, as I stated before, compelled me to despatch the cattle to the Jessan stream, named by the party the Chakha, nor did they rejoin me until late, and then the extension of their journey after the day's fatigue had so exhausted them that no pains were taken to tether the animals for the night. The men, too, were as fatigued as the cattle, and it was with no little surprise, on waking the following dawn, I observed not a single beast in sight. The Arabs for once had been caught napping, and now hurried off a little abashed at their unusual neglect, in search of the missing animals. The increasing light, however, discovered them scattered in every direction at a distance on the plain, nor did we recover the whole until after much time had been lost. A beautifully clear morning enabled me, in the mean time, to distinguish the town of Jessan refracted considerably above the horizon. Its bearing was 40°, and I estimated its distance as nine geographical miles. Badrai, too, was pointed out in a direction of 30°, and a place of Ziaret,‡ termed Imam Suliman, surrounded by a few date-trees, bore 16½°; while the high brow on the western range of the Luristan mountains, immediately north of Ali Ghurbi on the Tigris, bisected 82½° of

* Probably a chieftain of the early Beni Lam settlers. The tribe is supposed to have occupied its present territory between Kut el Amareh and Hawiza about four centuries.

† Mari (مری) is a name in common use for canals, and signifies "flowing."

‡ Ziaret (سبیل) is a place of pilgrimage. The tombs of holy and revered men are thus named among the Mahomedans.

the prismatic compass. The Imam may be seven and a half miles distant. The date-groves of Badrai and Jessan were very plain to the eye, though at sunset the preceding evening I could not discern them with a glass.

At 12.35, C. T., we again bestrode the miserable animals on our return to the Tigris. The beasts abandoned yesterday had, with the exception of one that had died, rejoined us before midnight the evening before, with the load of the defunct one distributed among them. From the looks of these, thirsty as they are, it is evident a long walk is in prospect for some of the party. Having afforded the worst a little water from the replenished skins, the march was commenced in a general but by no means straight direction of SW. by W., over a plain bearing the same features as I have described. As the sun rose the heat became scarcely bearable, for the day was calm, and the tract passed over more efflorescent with salt than that of yesterday. The glare and heat reflected back from this was intense, and the water-skins were frequently sought. At six miles from our encamping ground, the salt stream in the bed of the Suweycheh lake again became the scene of distress to our miserable animals, who, for a greater relief, and to enable them to pass the morass, were eased of their human freight, and managed thus to flounder through the swamp, supported on either side by men, with a tolerable celerity. Having reached the other side, it was evident the beasts that had suffered yesterday, and, from their crippled state, had not gone on to the water, were failing fast. A halt was, therefore, called for half an hour, in hopes of its refreshing them, though we had a long pull yet before us to the Tigris, and the skins were already exhibiting a most emaciated appearance under the exhausting applications that had been made upon them. The excessive heat and the knowledge that but little water existed, I believe, made every one more alive to thirst, and the dread of not getting a fair share of the fluid was the occasion of more frequent demands upon it. To my mortification, the boiled fowls I had with me, from being confined in saddle bags under a thermometer at 120°, had obtained that piquant flavour so admired by the vulture and the jackal, and I was compelled in consequence to make the morning's meal off a cube of salt beef, that, in addition to its edibleness, answered equally well the purposes of a seat or a pillow. The repast was refreshing enough, but it required the last drainings of the skins to alleviate the craving that followed from indulging in it, and from exposure to the heat also. By the time we resumed our route not a drop remained to us, and the halt, instead of refreshing the beasts, as I thought, only added to their weakness, for those that had lain down, from their stiffened limbs, could not get up again without help, nor could they proceed at the

pace we had been going at. An hour's tedious wayfaring over the encrusted plain, indeed, caused a separation of a mile between the van and the rear, so eager were the strong to reach the water, which Sheik Subba declared would be found in the bed of an ancient canal, some hours before we could reach the river. I found the straggling principally caused by a horse that was in the last agonies, yet endeavouring to follow. He was abandoned, therefore, after being released of his light load,—the empty waterskins. His owner, however, determined to await his recovery, or death, a reasonable time, and then to push on after the party. The whole plain was now literally alive with antelopes, and when first seen caused us some alarm, for the mirage hovering on the salt tract had transformed them, in their gambols, into troops of Desert banditti. One time the deception was so great that we drew up the party, convinced that a large body of Beni Lam horsemen were in pursuit of us on the south-eastern horizon. This salt marsh is a favourite haunt of these timid animals, who require but little water, and prefer even that in a brackish state.

At 7 we could just discern signs of verdure to the south-west, and on Subba declaring it was the spot he had no doubt of finding water in, there was a scramble who should first partake of it. In a quarter of an hour more the bed of an ancient canal was gained, but the hopes held out to us vanished in a trice, for not a fluid drop remained in it, though certainly, from its appearance, it must have been wet a couple of days back. There was no help for it, and as the men could hold out until they reached the Tigris, I halted here, so as to enable the worn-out beasts to enjoy the rich grass that was growing abundantly in the bed of the old watercourse. The owner of the abandoned horse joined us soon after, with a most pitiable tale of his blighted fortunes, consequent on the death of the poor beast.

This ancient remnant is a bed of 40 yards in breadth, confined between well-marked mounds, that could be faintly seen coming from the north-westward. It is now named Mokta el Subba, or the "Lion's Cut," and is said to be infested at times by these animals, which is probably the case, as they abound on the banks of the Tigris in the immediate vicinity. I am inclined to the opinion that this is the continuation of the Nahrwan, and though but a small portion is left as a guide for argument, it is seemingly the position from whence the Jumbil canals and town derived their supply of water, for the bed, in an easy curve, changes from north-west to south-west, and this is in accordance with the description the Arab writers give of its course subsequently to the decay of the portion to the south-east of the town of Jumbil.

At 10.20, c. T., the route was again resumed, the men now suffering

from the heat and thirst, though the horses were much enlivened from partaking of the rich pasture in the bed of the Mokta el Subba, and paced along with renewed vigour. The "lion" now comes in for a plentiful share of the ill feelings of the party, for holding out hopes that were deceptive: all declare now that had he expressed a doubt of the existence of water, a greater economy would have been observed. Of this, however, I am doubtful; for, indeed, I urged the necessity of preserving a portion, but unless I had taken the skins on my own horse, I knew it would be unheeded. Sheikh Subba, under the attack, preserved a dignified silence, merely observing occasionally that there was no want of water in the direction we were going, and that the clamorous might go there with all speed, or to another place more congenial to the warmth and impatience of their tempers.

While proceeding along in no very good mood, we were suddenly called upon to witness a barbarous custom in vogue among the Arabs everywhere, but one which I had never been present at before. My sanctified friend of the green turban and rags bestrode a mare of his own that had lately been in season, and since her feed in the Mokta el Subba had evinced a skittishness that troubled the Syed exceedingly. To my annoyance he would insist on dismounting, which he did, and after an examination, he declared that the lean and jaded creature had "taken the wind," meaning by this that some evil blast had passed *per vaginam* into the *uterus* of the animal. There was only one remedy of course, and this was passing sutures through the parts, to prevent the foal from being subject to bad influences that might affect its future career. I tried to laugh the brutes out of their absurd ideas, but might as well have urged the necessity of celibacy, for I obtained but a contemptuous glance, condemnatory of my ignorance in such affairs, and the work was proceeded with. The poor mare, after being hobbled, was thrown down, and the ragged descendant of the holy tribe undertook the operation, which he effected by the aid of a large pack-needle, and twine made out of rough goat-hair. The torture the poor animal underwent was considerable, from the size and bluntness of the needle, but it was at last effected, and, with a copious volley of "l'Anet Allahs"* showered on the head of the beast, she was allowed to rise. The belief and custom is universally prevalent, and I am told that a parent would rather that his child came under the influence of the "evil eye" then suffer his mare to contract a noisome taint, which they believe is communicated in this peculiar way by an insidious wind that, like electricity, passes rapidly by at times.

* An Arab imprecation, the most common in use, perhaps, among all classes of the people. Children that have just attained speech are adepts in the application of the phrases which signify "The curse of God."

After this annoying detention, we progressed onwards more rapidly, over firmer ground than the heavy salt loam, humid as it was, that we had traversed the whole morning. We now went WSW., over a desert of fine soil, capable of cultivation, and at 11.7, c. T., we discerned the well-known enclosure of Sheikh Jaad, bearing 230°, distant about eight miles, and in another forty minutes, to our great relief, we issued, from the most barren wild that perhaps the eye ever contemplated, into the richest verdure that Nature is capable of producing in a prolific spring. Here we halted on the borders of a vast marsh, formed by the Tigris breaking through its east bank, in the neighbourhood of Kaleh Jaad, which bears now 220°. Men and animals now made one rush for the water, the first draught of which amply repaid all our past troubles, and, in the enjoyment of it, the necessity we had laboured under was soon forgotten. It is quite certain, however, from these two days' journey, that unless the Gathir el Rishadeh and the Mokta el Subba be remnants of the Nahrwan, no traces of it are now to be found between the village of Jessan and the Tigris south of Jarjaraiyeh. The whole of the interesting space has been submerged at various times, and these inundations have levelled every eminence that may have existed.

At sunset* I obtained the sun's amplitude as 287° 45′ for variation of the needle,† and the mercurial altitude of *a* Ursæ Majoris gave the latitude as 32° 39′ 7″ N. This, with the true bearing of Kaleh Jaad, fixes my position.

Notwithstanding our present comforts, of abundance of water, a fine rich sward for a bed, and the clear canopy of heaven for a coverlid, we are not without our annoyances. The mosquitoes, indeed, forbid sleep after our fatigues, and we rise accordingly, with the dawn, but little refreshed, and with plenty of occupation for our hands. When well light (c. T. 11.32) the carpet was exchanged for the saddle. From this time until 1.30, we kept in a direction of north, on the skirts of the marsh, but finding that it extended at this time further to the east, to prevent the long detour, we determined on fording it. It was accomplished at a snail's pace, but not without two horses falling into it, and the rest extricated themselves with some difficulty. The marsh abounds in wild boar and ducks, and, though so late in the season, a couple of snipe were sprung. The "grisly grey monster," in the security of his muddy position, allowed us to pass unheeded, and, indeed, had we met him on the plain, our miserable animals would have had as much chance in the chase as a Dutch hoy in pursuit of a crack frigate.

Emerging from the marsh, which had occupied half an hour in crossing, the following bearings were obtained :—Kaleh Sheikh Jaad, 182°; and the ancient mound occupying the site of Naaman, on the

* April 23rd. † It is here 4° 2′ W.

right bank of the Tigris, above Baghilah, 224¼°. We kept a direction now of 275°, having a line of mounds, named Shaour, running nearly parallel with our course, at a mile distant on our right. This is a lateral duct, emanating from the Nahrwan immediately north of Jarjaraiyeh ruins. At 11.45 I called a halt, to allow of the party closing, as the worst animals had begun to flag again, and were now a long distance behind. In this way I do not think our pace exceeds two and a half miles per hour. The Shaour mounds are now a mile and a half distant to our right. While the party was closing, the "lion" drew his sword, and, in the exuberance of his spirits, though on a most sorry nag, went through the *ménage* with skill and dexterity, much to the chagrin of Syed Mahassin, whose tattered garments and want of a weapon compelled him to seek solace in the Sibeel,* or short pipe of the Arabs. He thought it, however, a good opportunity to indulge in his favourite theme of disgusting flattery, and proffers of everlasting service, which is the repulsive point in the otherwise frank character of the Arab; but, alike deaf to my own accomplishments and the necessity for his friendship, poured forth in the most whining and abject tone, I did not return him an answer; yet this begging and fulsome rascal is as proud as Lucifer, and would deem it an indignity, scarcely atoned for by blood, were he desired to betake himself off from the carpet, which he certainly contaminates. It is very trying to one's temper, but ebullitions of passion answer no good purpose, and, after all, I find it is the best plan to persevere in a good-humoured silence until such creatures as these have expended themselves, when a well-turned joke, or an allusion to his graceful appearance on horseback (for the Arab must be fought with his own weapons) will generally put the subject (that of endeavouring to obtain as much as he can) out of his head for the time.

At 3.5, c. T., the party had passed, and we therefore resumed our route. At 4, a low mound, covered with brick, pottery, and scoriæ, bore evidence that a building of some extent formerly occupied this locality, and, indeed, on a further examination, I could trace that a considerable town at one time surrounded the conical pile. The enclosure of Masaihiyat bore 189°. Kept on the same course of 275° to 280°, and at 4.30 reached an old bed of a stream, now termed Abu Chellach,† which leads into the Tigris on the east side of Debuni penin-

* سيبل literally means "a road," and is a name especially applied to travellers, and the pipe made of clay in use by them and by the lower orders of the people. Its bowl and mouth-piece are at right angles from each other, and are similar in appearance. It is a convenient appendage for a smoker on a journey, as it occupies no space, and is used without the long stick attached to most Turkish pipes.

† I have given the orthography of this term according to the corrupted pronunciation in vogue among the Arabs of my party. It properly is Abu Kellek (ابو كلك), or "Father of

sula, about 600 yards distant from our present position. I have not the least doubt but this is the point where the Nahrwan joined the Tigris in its days of decay. The Arab geographers name the neighbourhood of Jarjaraiyeh as its point of termination, after the country had been destroyed by the Seljuks, and after the canal itself, from stoppages in its upper course, had ceased to flow as far south as Jumbil. Like an expiring mortal, indeed, we see its extremities first wasted by the blasting touch of decay, the limbs then have lost their vigour and freshness, and, finally, the inanimate trunk itself is all that is left for us to gaze at. This is a true picture of the Nahrwan. We have seen in the Gathir el Rishadeh, in the Mokta el Subba, and in the broken aqueducts surrounding Jumbil and Kut el Amareh, the faint but first effects of its decline: as we have progressed, the more distinct elevations forming the banks of the Shaour and the Debuni canal, both lateral ducts from the main stream, bring us, as it were, to the second stage, and at Abu Chellach or Kellek we arrive at the prostrate trunk itself, whose continuity we behold stretching far to the north-west, with its numerous arms uselessly extended on either side of the giant body from which they formerly derived their nourishment.*

The Abu Chellach, or, as I shall now design it, the Nahrwan, continues for a mile to the north, and then gradually curves to the westward, passing between the almost obliterated ruins of Jarjaraiyeh and the head of the Shaour canal, which is now close to the east bank of the Tigris. To the north of the head of the Shaour, another dry bed, sunk into the country, like the Abu Chellach, but called Kuweit or Chuweit, leads also into the Tigris, and leads to the belief that the Nahrwan here bifurcated in its decay, and that the Chuweit is merely a branch of the Abu Kellek: both must originally have isolated the town of Jarjaraiyeh, which stood on an artificial island, formed between the Tigris to the south, and the bifurcations of the lower course of the Nahrwan on the east and west of it. But to continue the narrative.

At 5, C.T., after I had settled to my satisfaction the topographical features of the country around the Abu Chellach bed, we proceeded in

rafts," and the name would imply that it was navigated by these contrivances in the period of its prosperity. At the present time, rafts never venture below Baghdad on the Tigris, from fear of the Arabs, and the only exception to this was the conveying of the Assyrian antiquities discovered at Nimrud, in this primitive manner, from Baghdad to Basreh, where, by the bye, the magnificent bulls but ill fulfil their trust as guardians to the entrance of the proud temple of Assyria, for, for the last three years, they have lain recumbent, apparently uncared for, on the mudflats north of the dirty town. These noble specimens should have graced England's Museum at least two years ago. But I am wandering from my subject in regret for the distaste evinced by England to antiquarian research, especially when these specimens are unique, and would, exhibited even in our smoky capital, be a proud memorial of the perseverance of our travellers. كلك literally means "a reed," and from these being used originally in the formation of rafts, the name has become general for the structure.

a direction of 300°, and in half an hour came upon the curve of the old stream that I have mentioned above. Continued in its bed, and at 5.45 crossed the head of the Nahr Debuni, a lateral duct from the Nahrwan, which, extending in a line of 185°, watered the large peninsula now termed Debuni. At this point, the head of the Shaour canal, a similar duct that irrigated the country east of the Abu Chellach or Nahrwan, bore 335°. At this spot the bed of the Chellach, in coming from the north-west, after throwing off the Shaour and Debuni canals, forms a curve in the direction of 132° towards its junction with the Tigris, opposite to Ras Samr. At 6 we halted on the banks of the Tigris, for the heat had become very oppressive, and pitching the small tent, we sought its shelter from the glaring sun above.

Tried here to obtain a little sleep by way of compensation for last night's restlessness, but, as if doomed to suffer the penal visitations which afflicted Pharaoh and his Egyptian subjects, both day and night appear in the spring months, when all nature is vivifying, to have a torment at hand for the passing hour. The mosquitoes and sandflies exert themselves incessantly throughout the darker hours of our existence in this country, and the day is no sooner ushered in than they are relieved in their labours by a fly that gives no peace, so lively are its attacks, and so pointed is the weapon it is armed with. I am not aware if the species is known in any other country; I certainly have never met with it, nor am I entomologist enough to determine under what head of the order it should be classed. Like the common fly to all outward appearance, and of the same size, you notice not its insidious approach: it has, however, no sooner alighted, than its sharp, needle-like proboscis, resembling that of the mosquito, is at once inserted into the skin, not with the insinuating process of that insect, but with a thrust that makes one start as if with an electric shock; and while, perhaps, you are bent down in the act of rubbing the part attacked, opportunity is taken of your position to assail you in the rear, which soon again brings you to the attitude of "attention," and ready to give a bystander, who you can scarcely doubt has taken the personal liberty of thrusting a needle into you, a knock-down blow. Equipped, as I generally am on the road, with but one stout suit of clothes, worn, with my boots, night and day, after the fashion of the Arab, for the entire period I may be travelling, whether it be for a week or a month, I thought myself tolerably well fortified against their attacks; but I was obliged to confess myself vanquished, for these annoying insects made their way to the bloody repast through everything more pervious than a coat of mail. This distinct species of fly frequents the banks of the river only, and is not to be found, I believe, but in alluvial districts.

Pursued our journey at 9.50, c. T., in a direction of north, and in ten

minutes we gained the head of the Shaour canal, after passing the ruins of Jarjaraiyeh, which exhibit now but insignificant mounds; and a few bricks, forming part of a building, are all that is left of a considerable town, frequently mentioned by the old Arab writers. The direction of the Shaour canal is slightly curving between 100° and 110°, and the head of another arm of the Nahrwan, termed Abu Halifiyeh, bears from it 320°. Our road onwards lies on this line. At 10.30 crossed the Chuweit, a dry bed, seventy yards broad, which I have mentioned before as being part of the Abu Chellach and Nahrwan. At 11 reached a long line of mounds, evidently the banks of an ancient canal, that extend as far as I can see on a line of 52°, and opposite 210°, towards the Tigris. Between Chuweit and these branches the bed of the Nahrwan itself is not distinguishable, for the inundations have swept it away; but immediately afterwards, on approaching Abu Halifiyeh, the traces are recovered, and its bed becomes then the high road that I pursue. Twenty minutes onwards from the offshoots I have just described are situated four other canals, that emanate from either side of the Nahrwan. The two on the east bank have banks at least 50 feet high, extending in a line of 110°; those on the west bank have a direction of 220°. These canals are at present termed Abu Halifiyeh,* and from this place to the north the Nahrwan, though an excavated bed, assumes all the characteristics of a natural stream. I estimate its breadth here at seventy yards, and the present depth of its bed below the adjacent country varies from 6 to 9 feet. In ancient times, however, it must have been considerably more, for deposits and drift have, doubtless, contributed largely to fill it in the lapse of time. After a fifteen minutes' halt, continued our progress over a rich grassy sward, growing in the bed of the canal, and at 12.55 encamped for the night at a spot from whence two lateral ducts had their origin. The mounds forming the banks on the eastern canal are certainly of 60 feet elevation, and are named Qubeht el Khiyat. From their summits I obtained a good view of the country, and observed the following bearings:—position on Abu Halifiyeh, 146° 30′; Qabr Hadbeh, 185°; Humanyeh minarets on the Tigris, 261° 30′; Khore el Durb, a similar eminence to this on the Nahrwan, 319°; ⊙ at setting for variation,† 288° 30′. This position was further determined by a meridian altitude of *a* Ursæ Majoris, which gave its latitude 32° 50′ 15″ N. Parallel to this canal, and south of it, 200 yards distant, another irrigant

* A high mound in the Desert to the east, called Gumeh, bears from Abu Halifiyeh 62½°, two or three miles distant. It may mark the site of the old Christian monastery called Deir Kuneh in the Arab geographies, and the Mari of the Chaldean records. On a direction of 248° other extensive mounds are seen, at present styled Qabr Hadbeh; they are about half way between the Nahrwan and the course of the Tigris.

† Variation deduced from this 3° W.

of less breadth has been subsequently dug, from the west bank of the Nahrwan, 300 yards north-west of the Qubeht el Khiyat. This has no name attached to it at present. These lateral cuts are about fifteen yards broad only.

April 25th.—Another sleepless night, from the myriads of sandflies, which, baffling all efforts to keep them out, find their way within one's clothing. They are more annoying than the mosquito in this respect; and instead of being refreshed with a night's rest,—the relief of the traveller,—we pursue our journey feverish and dispirited. The Arabs are equally affected, and this morning complain bitterly of these annoyances. At 12.25, c. T., we advance again in the bed of the old stream, but our prospects of finding water appear to be fallacious, for the hollows where it had collected have hitherto shown a persevering drought. The course of the Nahrwan is now 320°, and the canal noted as north-west of the last station runs in a line of 185°. At 1, two other ducts were passed, that from the right cut in a direction of 195°; 102° being the bearing of the eastern one. Fragments of brick and pottery indicate the site of an extensive village on the right bank. At 1.25 arrived at the Khore el Durb canal, which has very elevated banks, and differs considerably in its course from the rest of the irrigants emanating from the east bank of the Nahrwan,—it being 72°. Some extensive mounds, denoting the position of a city, from their name of Modain, bear from the Khore el Durb 238°, and may be a mile and a half distant. Humanyeh minaret from this spot is seen in a line of 238½°. Proceeding on at 1.40, at 2 a canal runs from the east bank in the direction of 85°, and at 2.45 we came upon a venerable old tomb on the left bank of the Nahrwan, being the first erect building we have met with. It is called Imam Imlikh, is a revered spot, and doubtless the last resting-place of an early Mahomedan sage, for the bricks the structure is composed of are large and well constructed, such as we see only as belonging to the early Mahomedan and Sassanian ages. On the approach to Imam Imlikh, the banks of the old stream become more elevated, and on either side, for a considerable distance around, exhibit the ruins of extensive towns. The Nahrwan here makes a bend to the west for a short distance, and then pursues a waved course to Qabr Harbi, a modern grave,* on the mounds of a large canal that left the west bank of the stream in latitude 32° 56′ N. A mile north-west of the old Imam was the place spoken of as always containing water longer than any of the pools in the Nahrwan's bed, and our disappointment was great, therefore, at not finding the essential article. We have a small quantity still left in the skins, but the horses have now been without water for the last twenty-four hours, and as there is no hope

* Referred to in a subsequent part of this paper.

of obtaining any further to the north, I am reluctantly compelled to retrace my steps to the Tigris, as, after quitting this spot, the space between the ancient stream and the river is increased at every mile. I had calculated, in the event of not finding water, on the proximity of Arabs, particularly on the banks of the Tigris, from whom I might have obtained a camel or two, so as to convey a sufficiency of water for myself and a couple of the party, and thus extend the examination as far as the Diyaleh. In this I am frustrated also, for since leaving Kut el Amareh, though a hundred miles of territory have been traversed, not a human being other than ourselves has been seen; and this is surprising, for both the Shammar Togh and the Dawer tribes are generally in our present neighbourhood. Some dispute with the local government, on revenue affairs, has called them to the banks of the Diyaleh river, and there is nothing left but to leave the interesting canal for the present, and embrace the first opportunity of completing it that a plentiful supply of rain will only afford. As we were all fatigued from a want of sleep, although but a short time in the saddle, I was glad to pitch the tent, particularly as the day had set in very oppressive. The natives of the party were not long in taking advantage of the halt, if one could judge of the sounds attendant upon somnolency, for these were poured forth in every variety of cadence, to which it is not improbable I added a note or two, for I soon followed the example.

Somewhat refreshed, but feeling the want of water, we pursued our journey at 9.50, c. T., and at 10.10 crossed the canal on which Qabr Harbi is situated. This, and two others contiguous to it to the northward, leave the right bank of the Nahrwan, and, curving, follow a direction towards the mounds termed Modain, but as I have more extensive observations here on my second visit, I will defer noting them until they are arrived at in due order of the narrative. At 10.30 we continued on a course of 290°, and in ten minutes a fantastic canal, termed the Shat Sheyleh, was reached. It comes from the Nahr Adeleh in a direction curving from 287°, and continues afterwards in a line of 156°. Its banks are considerably elevated above the country. We now kept an irregular course in its bed, and at 11.5 the place of its junction with the Nahr Adeleh was distinctly marked. The Nahr Adeleh, or "the straight canal," as its name implies, is an undeviating line that formerly watered this part of the country between the Nahrwan and the Tigris, and though I did not trace it to its source, I presume it derived its supply from an offshoot of the Nahrwan now called Aghab. Its arrow-like formation is represented by 335° and 155° of the compass, and great pains appear to have been bestowed in maintaining an evenness of breadth throughout the line of its course. The marshes formed during high rises of the Tigris, that surround the remnants of

the old Christian monastery and city of Deir el Akul, extend at times as far as this canal, and, indeed, have in part swept it away. Qabr Harbi bears from the junction of the Sheyleh with the Nahr Adeleh, 111°. At 11.15 continued in a line 299° over a plain, strewed with broken bricks and pottery, and at 11.45 reached a mound bearing the present name of Mezayrid. It marks the site of some extensive building, which bisected a canal coming from a direction of 18°, and extending to 198°, in the flourishing period of the province. A similar mound, called Kuweit, is seen at the southern extremity of the canal, and the mounds of the Deir el Akul, environed by a sea of water, can be distinguished from the station of Mezayrid, on a line of 214°. This canal I believe to be a continuation of the Aghab, and, probably, is the same that disembogued in the Tigris where the present Rudad bed is marked on the map. From Mezayrid the minaret of Humanyeh is a little to the eastward of south. Some clouds in this direction prevented my obtaining an exact bearing. Proceeded at 12.5, crossing the bed of a marsh, which is plainly marked by a number of bivalves strewed in every direction over its surface. The drought of the last two years has, however, evaporated its contents, and for the first time, I believe, during the last ten years, this part of the country has become passable to the traveller. At 1.10 reached a spot where a canal from the Nahrwan, called Efta el Taj, bifurcates, one portion taking a direction of 195°, the other west, and the original conduit is traceable from a direction of 25°. Our course to this was 292°. Leaving again at 1.25, and keeping on the same track as before, in twenty minutes we encamped at sunset on the border of a marsh that is said to extend from the Bostan-i-Kesra, and to flood the whole country contiguous to the Tigris as far south as Deir el Akul. To see the ravages that the floods are daily committing, it is surprising indeed that so many vestiges yet remain from which we can obtain a partial glimpse of the former prosperity of this much-abused province.

The following morning, at daybreak, we continued our journey, but the road we were compelled to take to avoid the marshes was so circuitous that I could not keep a record correct enough to give the route any value.* Enough, however, was seen in the course of the morning to show that at one time the whole of the peninsula between the Diyaleh, the Nahrwan, and the Tigris, was a very populous tract, and, moreover, the fragments of ruin that we frequently stumbled upon prove that it was adorned with numerous structures of well-built brick. Canals cross and recross each other in a diversity of lines, the whole way to the Diyaleh, and, in the immediate vicinity of what I presume to have been

* This is immaterial, for I purpose at a future time to examine the neighbourhood of Ctesiphon at my leisure. It will deserve more than a passing glance.

the environs of Ctesiphon, become a labyrinth of network. The fine old palace of Anushirwan has been our leading mark, and, so clear was the atmosphere of the morning, the great arch of its vestibule was distinctly visible at twenty miles distant. It stands up, as it were, in mockery of the devastation around, and is a grim, venerable, and unique emblem of an age whose people at one time swayed the destinies of the eastern world, and who, for pomp and barbarous magnificence, stood unrivalled among its nations. As I pass it the sun is brilliantly setting at its back, a fitting type of the evening of its existence, and the sombre façade of the stately pile, casting its shadow far to the east, seems to invite the night-loving owl and the jackal to wander from their hiding places and to proclaim with screech and howl the utter desolation of the land. What a contrast to the morning of its glory! The bright orb, when lighting up the face of nature, then cast its first ray into the magnificent hall of the Cæsar, and was doubtless the signal for the prince, the court, and the subject to follow the devotional prostrations of the Magi in adoration of the luminary, according to the doctrines of Mithraism. What a scene of an mation these plains must then have presented, when the multitudes that inhabited a Persian capital and did homage at a Persian court, bound in one religious feeling, were congregated in the open air for the purpose of joining in ceremonies universally prescribed by their faith! And now, how changed is the picture before us! The old race and the old faith are extinct in the land, and, with the exception of the solitary pile I have spoken of, its structures have passed away. A few miserable tents, the abode of comparative strangers to the soil, who are alike miserable in their condition and their ignorance, are sparingly scattered over the classic ground. Their inmates, without devoting a thought to the former occupants, wander amid the old ruins in search of a precarious livelihood, either by plunder or by a hard toil, and exhibit to the traveller a striking contrast between the past and present history of the land.

During the heat of to-day I pitched the tent at a short distance from an encampment of Dawer Arabs, and in a short time was visited by an old friend of mine, Abd Aly, the Sheikh of this small tribe. These are the first people we have met with since we left Kut el Amareh, and my party were, therefore, in great glee at the prospects of a repast, for I had bought a sheep on the occasion. The Arabs, however, were somewhat annoyed at my not having partaken of their hospitality by going direct to their tents, but this I managed to overrule by pleading the number of my party and the smallness of their present camp. This was, however, not my principal motive, for I had a desire to rest during the heat, as we had again been annoyed last night by the insects, and I preferred quiet to the conversation always at its height in an Arab

camp when a new party arrives. The excuse was received, and I gained my point. When I awoke again, found that the tribe had in a body visited me, as I had not gone to them, and, while the people were busily occupied in preparation for the coming meal, they amused me considerably with their pertinent and caustic remarks. They have but loose and very vague ideas with regard to Europe at all times, but the revolutions enacting there have reached them, and a report exists,—founded on the occupation of Wallachia and Moldavia,—that the Russians are in full march upon Constantinople. When the Sheikh related this to me, an elder who appeared to pride himself upon his superior diplomatic knowledge, declared that such was the project of the Muskoof,* and that, moreover, the Dowlet Ankrisi† had arranged with the Russians for the partition of Asia Minor; the plains south of the Taurus being apportioned to the latter, while the Muskoof appropriated the northern provinces. He further declared that the Dukhani‡ was here in furtherance of these views, and concluded by saying, "Ya! Kabtan! Oh! Captain! am I not speaking the truth?" I answered his appeal with a laugh, but I could see the theory was a favourite one with the tribe, and, indeed, is general among the Arabs in these parts. After they had settled the subject to their satisfaction, one and all declared that, let who would come, they could not be more oppressed than under the government of the Sultan and his Pachas, and were loud in their complaints at the rapacity of the present governor; and from what I hear they have good reason to be dissatisfied. The contrast they drew between the word of an Englishman,—a proverb in these parts,—and the faith of an Osmanli, though it was intended to flatter, was gratifying enough, for I am aware that it is really estimated.

As soon as the feast had been concluded we took leave of the Dawer chief and his people, and shortly afterwards passed a large camp of the Shammar Togh, who are at present assembled between this and the Diyaleh, in hopes of being able to arrange some less vexatious and oppressing terms with the local government. Numerous irregular horsemen of the Government are going to and fro between Baghdad and the Shammar camp, but I doubt if the Arabs will succeed in obtaining a more favourable scale of revenue tax from Nejib Pacha. Their plan, however, is to attempt to procure a less demand upon them, and, failing in that, they will accept the contract without any hope or intention of fulfilling it. If a small sum should be short at the end of the year, no

* The general name the Russians are known by among the Arabs, from Muskovite. They are sometimes styled Ahb el Rus, "the family of Russ."

† Dowlet Ankrisi, "the English Government." The Arabs always interchange the *r* with the *l* when the latter follows.

‡ The "smoker;" the name given by Arabs to all steamers.

very active steps are taken to obtain it, but if, as is generally the case, more than half of the assessment remains unpaid, troops are then sent to enforce the claim, by coercing the tribe. These as often get beaten as succeed in their errand, and then the Arabs fly to more distant regions until the offence shall be forgotten. In the mean time the country is deserted, and generally the trade is stopped, for, when rebellious, the Arab at once closes up the road to commerce, because he knows well that he can make better terms when obstructing the trade than when living under the protection of the Government. To do this, however, he must remove his tents, his family, and flocks, out of the reach of the authorities, and, unless compelled, this is the inconvenience that attaches him to one locality, and renders him, without any adequate check to control him in the time of his allegiance, a comparatively peaceful settler.

As we approach the Diyaleh river traces of the fixed abode of man are becoming visible in a partial cultivation, but so impoverished is this once prolific province that the agricultural district does not extend ten miles south of the capital. The insecurity of property is evident in the circumscribed extent of the fields beyond the southern bank of the Diyaleh river. These, however, exhibit goodly crops of wheat and barley, and tend at least to show the richness of the soil and the capabilities of the province as a granary alone. The vestiges of the ancient canals to the east and north-east of Ctesiphon tell a tale of former fertility that contrasts sadly with the meagre patches that are observable, few and far between, in its present neighbourhood, and the wire-drawn irrigants of the modern race,—that an infant can step across,—compared with the stupendous conduits of antiquity, heighten the picture of decay before us. We passed the night among these "time-honoured relics," and reached Baghdad in three hours the following morning, after crossing the Diyaleh by the Bridge of Boats.

A plentiful fall of rain in the succeeding winter, giving every hope of finding water in the Nahrwan, induced me to leave again on the 3rd of March, and, equipped as before in respect to instruments, &c., I left Baghdad with the intention of completing what I had left unfinished the preceding spring. My friend, Mr. Taylor,* accompanied me as a volunteer, and not only saved me much time, but rendered much assistance by noting the observations made. We issued from the Bab el Sherki, or SE. gate of Baghdad, at 7.5, c. T., and took the beaten road past Gherara, leading to the ferry over the Diyaleh river. On both sides of our tract the cultivation is fast verging to perfection, and the present verdure of the country contrasts vividly with its arid summer garb.

* Mr. Taylor has obligingly presented me with the sketches he made on the journey. They accompany this paper.

Such is the difficulty of travelling to the south of Baghdad, we are compelled to take, in addition to a suitable guard, sufficient provisions and even water for the period it is intended to remain on the Desert, and thus a caravan is formed of a dozen mules, even when journeying to a short distance. We amount at present to that number, and my old friend, Sheikh Subba, quadruply mated as he is, being glad of an excuse to get away for a brief period, undertakes the conduct of the party as before.

The Diyaleh, now spanned by a bridge of sixteen boats, was crossed at 9.22, and, proceeding a short distance along its east or left bank, we encamped, on a beautiful evening, about one mile north of the bridge. I should have mentioned that the space intervening between the city of Baghdad and the Diyaleh is an interesting locality, for of late the mounds known as Tel Mahomed, and some smaller ones contiguous to the Tigris at Gehrareh,* have yielded not only masses of brickwork inscribed with the Babylonian character, but many sepulchral vases of a new form, which have contained, in addition to the usual ashes of the dead, ornaments of copper, beads, glass, miniature dogs in copper, and while I write this, some massive copper balls, hollowed in the centre, have been discovered. These bear a cuneiform legend in one line encircling them. The metal is very pure, and the uniform symmetry of the globes, having a raised edging around the cylindrical hollow, shows that the art of moulding and casting in these early times had attained some eminence; indeed, to the shame of the modern city be it said, Baghdad itself, in this nineteenth century, has not a foundry capable of fusing either copper or iron. Another small mound, adjoining the main road leading to the Diyaleh bridge, half way between it and Gehrareh, and on the margin of the Hor† el Zafrani, is another old vestige, and to this a tale is attached that prevents individuals passing it at night, unless in parties of five or six at a time. It is said to be the abode of a black spirit, which, though often combated with, has never been defeated, its aërial nature rendering innocuous the thrust of lance or dagger. The relater of the story declared he had personally seen it, and had evidently a very wholsome dread of the black goblin's influence. It is a spot I would recommend as a locality for a house or tent, for I believe the premises would be safe from the visitations of Arab thieves.

The Daffafeh Arabs are at present encamped in our neighbourhood, and the carpet had scarcely been spread when we were favoured with a visit from the chief, who, for a pompous loquacity, certainly might

* Gehrareh is generally recognised as the Kilwatha of the Arab geographers. The position assigned to this old city certainly corresponds with the modern village, and the adjoining mounds will doubtless yet display, if perfectly excavated, further interesting relics.

† "Saffron marsh," a low part of the country that receives the inundation of the Tigris and the Diyaleh, principally the latter.

have occupied the position of Mufti to the city with advantage. His rags, however, were not in keeping with his inflated diction, but it was evident that he was a man of some sense when he descended from his "Pegasus" to rational converse. He had adopted the style, I found, to give us an idea of his consequence, and, if possible, to deter us proceeding further on the journey, or, at all events, to impress us with the belief that his escort was necessary to ensure us a safe protection on the road. Finding we turned a deaf ear to him, he became communicative, and really possessed a fair knowledge of the history of his country, indeed, more than I ever met in a Desert Arab; and I afterwards found that the family to which this man belonged were but a short time ago one of the wealthiest and esteemed of the once rich Daffafeh tribe, who, by the commission of an act of treachery, had become more impoverished than almost any other. Sulyman Pacha, when he fled from Baghdad some thirty years ago, escaped from the south gate, and sought protection among the Daffafeh, whom, while he was in power, from a friendship for the tribe, he had exempted from the exactions that others were subject to, and, on his downfall, naturally looked to them to shelter him from the price the new Government had set upon his head. The offer was too tempting, however; and the father of this very man, who was then the chief of the Daffafeh, agreed to violate the sanctity of his tent by the murder of his protected guest. When seated near the unsuspecting Pacha, by turning the conversation on the merits of their respective blades, the former was induced to yield his weapon to his supposed friend for examination, and in an instant, with a single sweep, the head of the victim rolled in the dust. The coveted reward was duly paid on presentation of the decapitated member, but the treacherous deed was not lost on the new Pacha, who feared that the Daffafeh, powerful as they were then, might probably be influential in his own downfall. The case served as a pretext and as a lesson, and in a short time, the Daffafeh, justly stigmatized for their perfidy, and abandoned by the neighbouring tribes, who abhorred the desecration of the rights of hospitality, became the objects of spoliation, and, distrained by the Government, their possessions gradually dwindled away. They still wander on the scene of their crime, a reproach among their fellowmen, and, withal, miserably poor and crest-fallen.

We had selected a bad spot for our bivouac, and accordingly found but little sleep, for the high road along the left bank of the Diyaleh led past our beds to the city. Sleeping, as we do, in the open air and on carpets spread upon the ground, the pattering of the laden animals on their way to the city kept us constantly awake. Brushwood is the chief article used in Baghdad by the poor for firewood, and is all brought from the Desert south of the Diyaleh. The beasts are laden and driven

during the night, so as to reach the gates of the city by sunrise. While preparing for the mount we examined a man who had lost a foot close off at the ankle by the bite of a shark, when swimming the Diyaleh about forty years ago, and the appearance, therefore, of these monsters in the Tigris and the Diyaleh is not so recent as we have hitherto imagined. The natives deem them, however, new visitors in these fresh-water streams, and it is certain they have become both more numerous and more dangerous in the last few years. Bathing in the Tigris, indeed, six years ago was attended by no dread of unseen monsters, but such is the alarm at present that it has nearly ceased to be practised. Two instances of accident have come under my own observation, and I have heard of many more. The last year they were exceedingly ravenous, and were found as high as Samarrah, a distance of six hundred miles from the sea. The credulous will raise a doubt as to the identity of the fish, but we have caught and examined them on more than one occasion. I deem this a curious fact in the natural history of the *Squalidæ*, and believe the propensity to ascend so great a distance in fresh-water streams has not previously been known, for I have not met it recorded anywhere.

At day-break on the 4th, we resumed our route. The morning was cold, fresh, and clear, and the Persian hills of Luristan, though some ninety miles distant, stood out in fine relief, snow-capped as they were, against the sky beyond. Took a straight course for a ruin termed Mismai, and, in an hour and five minutes from our encamping ground, were on the summit of the old structure. Half way we had passed over the site of a considerable town, now termed Reshadeh. The alignments of the walls were partially distinguishable in the form of an oval or a circle, but the inundations and neglected repair of its canals have done their work, and have nearly swept it from the face of nature. The area of the town bears evidence of being frequently submerged, but here and there faint vestiges of buildings are still traceable, particularly on the side nearest Mismai, which appears more elevated, but, I think, only from the principal buildings having stood in this quarter of the city, which must have been a large one. I computed its diameter as one and a half mile. A canal coming from the north-east, showing it derived its water from the Nahrwan, bisects the town in its entire length, and throws off a branch from its centre to the south-east in the direction of Mismai; its appearance confirming, I think, the supposition of this portion being occupied by the principal buildings.

Mismai itself has been a stronghold, or "keep," and perhaps acted as the citadel to the town I have described. It is evidently a Parthian or Sassanian edifice, and to all appearance dates from the same period as the other ruins contiguous to Ctesiphon. Its shape is that of an irregular parallelogram, having had three gates facing the west, east,

and south points. The walls, massive and thick at the present time, are about 35 feet above the plain; they are composed of the large sun-dried brick, 14 inches square,* and, where the accumulated *débris* has been washed away, particularly in the deep furrows occasioned by rain, the kiln-dried brick of large dimensions is found also, but, like those of Ctesiphon, they bear no inscription. The eastern face of the building is 280 yards in length, the western 200 yards, the northern 150 yards, and the southern, that facing towards the palace at Ctesiphon, being the shortest, is 95 yards only. A large canal, coming from the north by east, supplied a ditch or moat of considerable breadth encircling the fortress, and the canal, before mentioned as bisecting the town to the west of it, contributed by an arm to its supply, or rather was led into it after traversing the south-east portion of the city. This arm derived its water from the same source, viz. the first canal that emanated from the Nahrwan immediately to the south of Sifweh, and an opening in the ditch led off the superfluous water by another long canal to the SE. ½ E., for irrigation.

The following angles were obtained by theodolite from the highest part of the fortress of Mismai, and near to the west gate of the city; 360° set to the highest minaret in Baghdad, being that called Suk el Ghazl, the magnetic needle 303° 30′:—

The minarets over the shrines at Kathemein	2·5′
Sheikh Shabooddin	3·17
Moadhem minaret	4·45
Abu Arug, tomb on east bank, Nahrwan	57·59
Upper cut from the Nahrwan	54·20
Tel Reshadeh, town to west of Mismai	331·24
Diyaleh tree and bridge	323·27
Jaffer tomb and trees	299·36
Tel Omer, in the ruins of Seleucia	264·40
High part of Seleucia wall on the Tigris	257·59½
Tomb of Selman Pak	248·35
Centre of the Tak Kesra, great arch at Ctesiphon	246·33

* This seems to have been the material in general use in the later Babylonian, the Syro-Macedonian, and the Parthian periods, particularly for fencing cities and for other solid works. The Majelibi at Babylon, the ramparts of Seleucia, Akr Kuf, the walls of Qadesiyeh, the remains contiguous to Tak Kesra, the enclosure of Nai, and the place we are treating of, comprise, I believe, the only existing ruins where this form of construction is observable at present in the country. The more early are indicated by having reeds placed between each layer of bricks, like at Babylon and Akr Kuf. Bitumen may be occasionally remarked also, as supplying a mortar, but it is not general; at the same time, it is sufficient to point out the truth of the record wherein the Babylonian structures are detailed (see Genesis xi. 3), if "slime," as rendered in our version of the text, be, as is generally considered, a free translation of the Hebrew word signifying bitumen.

Bostan-i-Kesra, high part to the south	236°21′
Mound with a mark upon it	146·5
Abu Gubbeyr	120·43
Point of the Chef or Kef canal, on Nahrwan	108·10

Remounted at 2.48, and traversed a plain strewed with fragments of every description of pottery, both glazed and plain. The glazed portions were fantastically figured with neat devices, and the many remnants of broken glass show it was an article in extensive use. Porphyry was observed too in the neighbourhood of Mismai, as well as beads and corroded pieces of metal, with a few copper coins in the same state. At 4 came to the head of a canal, now called Abul Agul,* that extends in a direction of 140°; at 4.56, another canal, termed Khushm Abu Dheeb, was passed, its line was 237°; and at 5.38 we arrived in the bed of the Nahrwan, close to a lateral duct with high steep banks, termed Khushm el Khor. We then crossed the canal direct for Sifweh, and at 6.10 were glad enough to reach our tent pitched among its ruins, for the sun had become very oppressive.

Sifweh is a name given to the ruins of an extensive town on either bank of the Nahrwan, from the tomb of one Sifweh that stands amid the ruins, and who is described as being the Kadi of the former town of Nahrwan, which is identical with this place. The old name of Nahrwan, indeed, has been lost in the appellation of its defunct magistrate, who was a profound legislator and theologian. The ruins are at present considerable, notwithstanding the locality is visited by caravans from Baghdad for the purpose of carrying away the materials it was built of. The Diyaleh sweeps past the right bank of the Nahrwan at this spot, and indeed, has carried away a considerable part of the town that stood on the margin of the old canal. The breadth of the Nahrwan here, by measurement, was 117 yards, just double that of the Diyaleh, and I can trace its bed, quite distinct from the modern river, in waved lines trending in the direction of a tomb called Habesh. I must, however, leave this for future examination, but it is evident to me that the dam now in the Diyaleh, a little south of this spot, was, in the days of the Nahrwan's prosperity, merely a bulwark erected to prevent the waters of the Diyaleh flowing in their natural course to the south, and to turn them to the south-east into the new channel designed for them.

The following angles were obtained from the highest part of the ruins near the tombs on the left of the Nahrwan, at Sifweh, by theodolite;

* Properly Akul. I write the names as they are pronounced. The whole of the names, indeed, are modern appellations and unworthy of notice, except as serving to distinguish one object from another. Akul is the name of a thorny plant that grows in great quantities on the Desert, and a favourite food of the camel.

360° being set to the minaret of Suk el Ghazl at Baghdad, the north point of the magnetic needle showing at the same time 246° 30′:—

Shrine of the Imams at Kathemein	16°48′
Imam Habesh	146·14
A small round mound on the Chef or Kef	256·40
An isolated pile called Joziyeh	263·38
Abu Arug	279·22
Two lateral ducts of the Nahrwan termed the Khushm el Khor	285·12 292·18
Diyaleh tree and bridge	315·37
British flag, the highest object in Baghdad	358·59
⊙ near limb at setting for variation*	22·54

In the evening I observed too an excellent meridional altitude of *a* Canis Majoris (Sirius) 80° 28′ 58″, which places its latitude as 33° 25′ 23″ north.

Monday, March 5th.—Filling the water-skins at the Diyaleh we pursued the line of Nahrwan, which continues to the south for a mile below Sifweh, and, meeting with the superior margin of the alluvial tract, is conducted along it at once to the south-east. Another mile and half on this course brought us to the remains of the first of the lateral branches that emanated from this magnificent canal. They are on the right bank, and at present are known by the names of Khushm el Khor. The second arm is the highest, and I therefore selected it as a station. Setting up the theodolite I obtained the following angles, the instrument as before fixed 360° to the minaret in Baghdad, and the needle at 256° 00′.

Moadhem minaret	12°00′
Shrines of the Imams of Kathemein	14·39
Khani beni Saad	94·06
Habesh tomb	121·28
Abu Arug tomb, close to on left bank	172·10
⊙ remote limb for azimuth	212·18
⊙ altitude lower limb for do.	10·37
Chef or Kef, high part of the canal	245·38
Abu Ghubbeyr	261·00
Direction taken by the Khushm el Khor	274·30
Mismai, station of yesterday	283·55
Tak Kesra, centre of the great arch of Ctesiphon	289·9

Left again at 1.52, and kept a course to the left of the Nahrwan, which, between Khushm el Khor and Joziyeh, makes a slight curve with its convexity to the south-west. Reached Joziyeh at 3.10, the last

* Variation here in 1849 = 3° 40′ W.

mile having been in the bed of the Khorassan canal, which formerly joined the Nahrwan at Joziyeh, where a considerable town once stood, and, from the appearance of the bed of the river, I look upon it as the site of a well-constructed bridge.

The Khorassan canal that is traceable to this point now reaches as far as Abu Khomeis only; that is, its waters attain only to that place at present, whereas formerly the canal, after irrigating the intervening country, from the Hamrin hills to the Nahrwan, was also enabled to supply the latter stream with a copious body of water. From Joziyeh I obtained the bearing of Khushm el Khor as 331°, and Mismai 198°.

The day had now set in cloudy with an increasing southerly breeze that swept along the Desert, accompanied in its progress by whirlwinds of dust that were quite painful to ride against. From Joziyeh to the next substantial branch thrown off by the Nahrwan, which is named Chef, the bed of the ancient canal is as straight as an arrow in a line of 128°. This course was pursued, leaving Joziyeh at 3.20; in thirty-two minutes afterwards a lateral duct, termed by the Arabs Khushm el Aliyan, that watered the country in a direction of 210°, was passed, and the greater branch, called, in the corrupt *patois* of the country, Chef,* was reached at 4.20. Both these canals, and, indeed, all the offshoots that we have hitherto seen, leave the right bank of the Nahrwan. The mounds forming the banks of the Chef are of considerable elevation; from the highest point I obtained a round of angles by the theodolite, the instrument being set 360° on the centre of the great arch of Ctesiphon, the following being to the right:—

Abu Ghubbeyr	8°10′
Mismai, station on the mound (approx.)	25·00
Diyaleh, single tree	40·48
Joziyeh ruins on the right bank of the Nahrwan	102·06

* Kef is the proper orthography of the name of this canal, from the Persian كف signifying the "palm of the hand." The Arabs here, as usual, have a story to relate in support of the origin of the name, and declare that the son-in-law of the prophet (the Khalif Ali) lost a hand on the spot. We have no historical account, I believe, of this circumstance, nor of Ali's wanting the member, but the Arab tradition and retention of the name invest the locality with some interest, for we know that the famous Ali defeated the Khuarij rebels in a great battle, termed the battle of the Nahrwan, and in which it is not unlikely he received a wound in the hand. I believe, however, the term Kef is more particularly referable to miracles where the hand is the instrumental member, and it is not improbable, therefore, that the devoted followers of the chief were enabled to sanctify the victory by the proclamation of a miracle which may serve to identify the site of the battle at the present day. The miracle related of the leprous hand in Exodus iv. 6, 7, is termed the Kefi-Beytha, or the "white hand." In the angle formed between the Nahrwan and the Chef branch, a considerable town existed in a former age. Fragments of every kind of building materials and broken domestic articles of pottery lay in every direction around.

Abu Arûg	117·00′
High part of the canal termed Tamerrah	262·03
Magnetic north by the needle	207·00

I tried also to obtain a latitude, but the lurid redness of the atmosphere, charged as it was with an almost impalpable dust, frustrated my attempt; and by the time we had despatched our frugal meal the wind had risen to a gale that precluded all hope of making any further survey for the time; I therefore determined on tracing the canal only as far as Medar, where Arabs are reported to be encamped, and, consequently, where we are sure of finding water, for our skins are again empty. Leaving Chef at 6.35, C. T., we continue our course with difficulty from not being able to penetrate the dense mist occasioned by the gale; the banks of the old stream, however, served as a guide. At 7, extensive ruins, stretching for a mile along the right bank of the Nahrwan, now bearing the name of Zateriyeh, were passed; and in a quarter of an hour more another canal, the Tamerrah, with high mounds, similar to those composing the banks of the Chef, afforded a conspicuous mark for the theodolite. It could not be used, however, for we could not see distinctly thirty yards around us, and as the day advanced it was evidently becoming more unfavourable, so, suspending further operations, we crossed the Nahrwan in the direction of Medar, determining to return to Tamerrah as soon as the weather allowed of operations being renewed. At 7.27, C. T., we left Tamerrah, and, crossing the bed of the Nahrwan, reached some elevated mounds marking the former existence of a considerable city, now covered by them. The usual vestiges were profusely strewed in every direction over their surfaces, and, in addition to these, the site exhibited large pieces of the friable deposit of slag in many places, showing that slag had abounded in the buried structures, or had been manufactured here for works in the vicinity. The glazed tile and jars were also abundant, and its half insulated position, bordered as it was on two sides by the waters of the ancient canal, would denote its importance as a city in the flourishing period of the canal. Its present name, Medar,* is but a modern appellation, and derived, I presume, from the fact of the Nahrwan curving around the base of the city in a fantastic sweep, not observable in any other portion of its course. It is situate half a mile distant from the left bank of the Nahrwan, and on a clear morning some ruins to the eastward, called by the Arabs El Ejreb,† can be distinctly seen. These are reported as extensive, and as built of hewn stone. I am at a loss, however, to know from whence it was watered, nor could the Arabs

* Medar in Arabic signifies a "circle," or the "centre of a circle," also "place of turning."

† This word is probably a corrupted form for El Akrub, "the scorpion."

inform me, though they say a large canal exists in its immediate neighbourhood. I purpose visiting the place at a future period.

With much difficulty the tent was pitched, as a threatening sky foreboded rain. The strong gusts of wind that we were exposed to kept us in constant alarm for its safety, and on one or two occasions it had nearly been carried off by the howling blast. As sunset approached the cold became severe, for the cutting breeze searched through our light clothing, and the servants of the party, exposed as they were without any covering, felt its effects in a twofold degree. Huddled up in a mass under the lee of the small Bechoba, we could hear their teeth chattering with the cold, and I gladly availed myself of the proximity of a few Arabs, who were encamped in a hollow of the mounds, to purchase a sheep for their entertainment. A kid and a miserably lean goat were all that we could obtain, but they served to excite an activity in the party, and a tolerable meal, after the fire was once kindled (a matter of much difficulty), soon raised the thermometer of their spirits. We were, however, badly enough off for water, for none was obtainable beyond some stagnant rain-water (having now the consistence of mud) that had collected to the depth of a few inches in a neighbouring pool. By holding the nose and making use of the teeth as a strainer, the effluvia and insects with which it abounded were avoided, and a satisfactory but by no means palatable draught was secured. When the flocks returned to the tents in the evening we were further regaled with copious bowls of pure milk and the refreshing Leban* provided by the hospitality of our entertainers. These are a small family of the Daffafeh, who have had some matrimonial dispute with the larger portion of the tribe, and have settled apart until the differences be adjusted.

During the night we had squalls from every part of the compass, with loud peals of thunder attended by lightning and some rain. This latter brought old Subba to seek shelter under the canvas, for (a martyr to rheumatism) he dreaded its attacks. The confined space of the tent, piled up as it was with the saddles of the party and the instruments, in addition to my companion and myself occupying a recumbent position, would not admit of a third with convenience. The old Sheikh, however, found room enough between us to assume a squatting posture on his hams, and, consoling himself by puffing at his short Sibeel, buried in his left hand, was not a bad resemblance of the incubus attendant on nightmare, especially when the lightning, making the darkness but just visible, exposed his weather-beaten and grim aspect to our half-waking and disturbed fancies.

* Leban, milk formed into a sour curd by the addition of rennet, and is a very refreshing and wholesome beverage, especially when enjoying the abstemious regimen inseparable from life on the Desert.

A hard squall at daybreak from the north-west dispersed the heavy clouds, and a brilliant morning, as usual in this climate, succeeded to the oppressive and leaden sky of yesterday. Surrounding objects were rendered more than usually distinct, and I obtained from the most elevated part of the mounds of Medar a good round of angles, with the theodolite set 360° on the centre of the great arch at Ctesiphon. The following objects were observed :—

⊙ near limb for Azimuth*	249°3′
⊙ altitude lower limb for ditto	10·15
Ruins of El Ejreb, said to be a large city	211·48
Minaret of Aberta on the Nahrwan	263·58
Sisobaneh, the first lateral duct on the left or east bank of the Nahrwan	242·45
Baayr, high part; an inland canal	247·58
Abu Tamerrah, canal of yesterday	30·53
Chef, high part	58·23
Magnetic north	311·00

Leaving the tent and baggage to follow, we rode to the Tamerrah canal,† and setting the theodolite 360° on to Joziyeh ruins, the following objects bisected as follows :—

Chef, high part and station	347°58′
Abu Ghubbeyr	308·25
Mismai station	305·40
Tak Kesra, arch of Ctesiphon	274·49·30
Direction of the Tamerrah canal	221·00
Aberta minaret on the Nahrwan	174·59
Sisobaneh, high part	174·45
Medar, place of observation	127·57
Direction of the Nahrwan's bed	148·00
Magnetic north	301·30

Quitting the Tamerrah canal at 2.50, after being rejoined by the party, we continued in the bed of the Nahrwan, now about 100 yards broad, in the direction given above by theodolite. In this part of the old canal the bed exhibits at present a sea of waving vegetation, for the spring crops are arriving at maturity without being dependent on artificial irrigation. These beds of ancient streams are well adapted

* March 6th, 1849.

† I am inclined to think the old name of the Diyaleh, or of that part included between the town of Bakuba and the modern Sifweh, known to the ancients as the Tamerrah, has reverted to this canal. It is, however, mere conjecture from the similarity of the names. Tamerrah of the Arab MSS. is, I believe, of Syriac origin.

for this species of cultivation, termed Daym* by the Arabs, and, moreover, well suited to the wants of an idle race like the predatory tribes, who do not fail to take advantage of the bounty of Nature in this respect. In these old beds, and, indeed, in every hollow that absorbs moisture, the tribes sow at random a quantity of grain, leaving it to Nature either to ripen or perish. So prolific is the soil, however, that, except in seasons of great drought, a rich crop is obtained with only the labour required for the distribution of the seed. A wet winter, indeed, brings an abundant harvest to the nomade families, and some species of grain, like the black barley, attains perfection by the humidity of the dews alone. Thus Nature, in these otherwise arid wastes, in some measure provides, for the idle and most needy of her children, a remedy against immediate starvation, and they fail not to reap it, however scanty it may be. This year promises to be a very favourable one, and the prospect of the Arab, that has in this respect been miserably bad the last two years, is consequently brightening with the spring. It is the theme of delight dwelt upon in every evening Mejlis† of the tribes, and to witness the scenes of distress last year in the Pachalic would make any one a participator in the universal joy.

At 3.30, or, at the pace we came, three geographical miles distant from Tamerrah, the first of the branches from the left or east bank of the Nahrwan was arrived at. It bears the name of Sisobaneh at the present time, and its direction will be seen by the following angles taken with the theodolite from its most elevated part,—the instrument set 360° to the station on the Tamerrah canal :—

Magnetic north by the needle	89°30′
Tel Amr, a conspicuous mark	327·00
Bend of the Nahrwan	267·00
Tel Baayr, at the entrance to the canal of the same name, reported to extend to Ctesiphon	246·09
Minaret of the ancient town of Aberta	219·30
Direction of the Sisobaneh branch	192·00
Medar, station on the ruins of	11·45
Tellul* Ejreb and Abu Kellak in a line, the latter two miles distant, the former the site of an extensive city	152·41

* Literally means "crops reared by gentle and constant rains," and for this species of harvest is peculiarly applicable.

† "Assembly."

‡ تلول Tellul is the plural form of the Arabic تل Tell, an "eminence" or "mound," and in this country of vast plains, where seen, are entirely artificial. Beneath them are entombed many an interesting relic. The antiquarian sighs, as he wanders over and around them, at his inability to fathom their mysterious contents.

Here the Nahrwan makes a curve to the south, and in this part of its course resembles, in its sinuosities, the bed of a natural river. At 4.10 we left Sisobaneh, and in twenty minutes reached the entrance of the Baayr canal, being a cut from the right bank of the stream. Its direction is 207°, and from it Sisobaneh is 323°, and Aberta minaret 123½° of the prismatic compass. Remounting at 4.35, and keeping the right bank of the Nahrwan at a mile distant from the Baayr canal, the ruins of an extensive town commence and extend on to three canals called Ramaylat, separate from each other a distance of a quarter of a mile.

At 5.12 the lower of these canals was passed, and from it Aberta bears 117°, and its direction is 190°. A continued line of ruins occupies the space between these branches of the Nahrwan, and points to the locality as having been a very populous one. Nothing, however, was observable beyond the usual remains so often described. Opposite to these, on the left bank of the old stream, is an offshoot termed Sadr, the second on this side of the Nahrwan. Its direction is 77°, and Aberta bears from it 113°, and immediately below it the ruins of this city are entered upon, consisting of disordered heaps of brickwork, that extend for three miles along the east bank of the ancient stream. We reached the only erect portion at 5.50, and I was enabled to obtain the meridional altitude of the ⊙ as 101° 44′ 48″, making its latitude 33° 14′ 17″ north.

Aberta is the only position on the Nahrwan that has retained the name it was known by among the early Arab geographers, and must have been a considerable city in the flourishing period of the canal. The mounds formed by its fallen buildings are seen covered with masses of brickwork on either side of the erect pile for a distance of a mile and a half, and their appearance, as well as the retention of the name, would indicate that it was the last inhabited of the many towns that formerly occupied the margin of the old stream. In Arabic Aberta* signifies the "place of crossing," and its site was perhaps selected as being directly on the high road from the north-east provinces of Persia to the capital of Ctesiphon, from which city it was distant but seventeen geographical miles: it had perhaps another name in the era of the Sassanians. It is at present remarkable only as the only spot on the whole line of canal where a piece of a fabric retains an erect position. When seen from a distance this resembles a minaret, and is termed, in consequence, Minareh by the Arabs. It appears to me, however, to have been a portion of a massive wall through which a perpendicular shaft was constructed, but for what purpose, unless for use as a well, I am at a loss to determine. A portion of its cavity still remains, showing a neat and compact style of brickwork. I tried hard to ascend the pile, but the

* عبر Abr, "a ford."

bricks were so rotten that they crumbled away with my weight, and was, therefore, disappointed in obtaining a sight of the great arch of Ctesiphon, for some high mounds of intervening canals obstructed the view from its base. This building occupies the centre of the town.

At Aberta the bed of the Nahrwan takes a corresponding but opposite curve to that at Sisobaneh. The right bank opposite to the town exhibits a few traces of buildings, but not of any extent, and in the bight two canals, termed Naajeh, irrigated the country in a direction of 130°. From the point of their junction with the Nahrwan a canal called Abu Simsim bears by compass 102°, and Aberta pile 44°, half a mile distant; between the Naajeh and the Rumeylat canals the Nahrwan keeps a wavy direction of 305°.

An abundance of water from the collected rains occupies the bed of the ancient stream. This and the rich grass meadows that border on the canal have invited a large party of Niyadat Arabs to the spot. Their black tents dot the grassy glades in various directions, and immense herds of their camels are seen grazing on the adjoining wastes, for they prefer the prickly thorn of the sterile portion to the soft herbage of the more verdant soil. The tribe is a distant branch of the Daffafeh, but, unlike them, they do not cultivate large tracts, but depend for a livelihood on the productions of their herds and kine, and on the Daym crops which are thriving well in this portion of the canal. We found them very civil, and their appearance, arms, and dress bespeak an independence and wealth superior to any other Arabs I have seen to the south of Baghdad. Their Sheikh was absent on a hunting excursion, and, though without any immediate controlling power, I found them as tractable as could be wished, for they readily sat down when I was observing, so as not to shake the mercury in the horizon, which they did materially while moving about, and were otherwise disposed to forward our views by assisting us to ascend the pile, and in measuring the breadth of the canal. In return I promised them a plentiful Daym harvest; at least, I said the sun predicted it. I could not be far wrong in my conclusions for the crop was already plentiful, and they, simple minded as they are generally, were pleased with anything that was in accordance with their wishes.

A few stones scratched with some rude devices, and an earthen saucer inscribed with Pehlevi or Sabean writing, used in former ages for covering the mouths of sepulchral vases, were offered for sale, but, what I deemed an exorbitant price being asked, they were refused. The saucer, after depreciating its value, I secured; but the stupid fellow to whose care I consigned it, from a belief that my disregard of it was real, would not trouble himself with carrying it and threw it away on the road, to my great annoyance, whereas my protestations of its worthlessness were

only feigned, so as to prevent the Arabs supposing that we entertained any great value for antiquities.

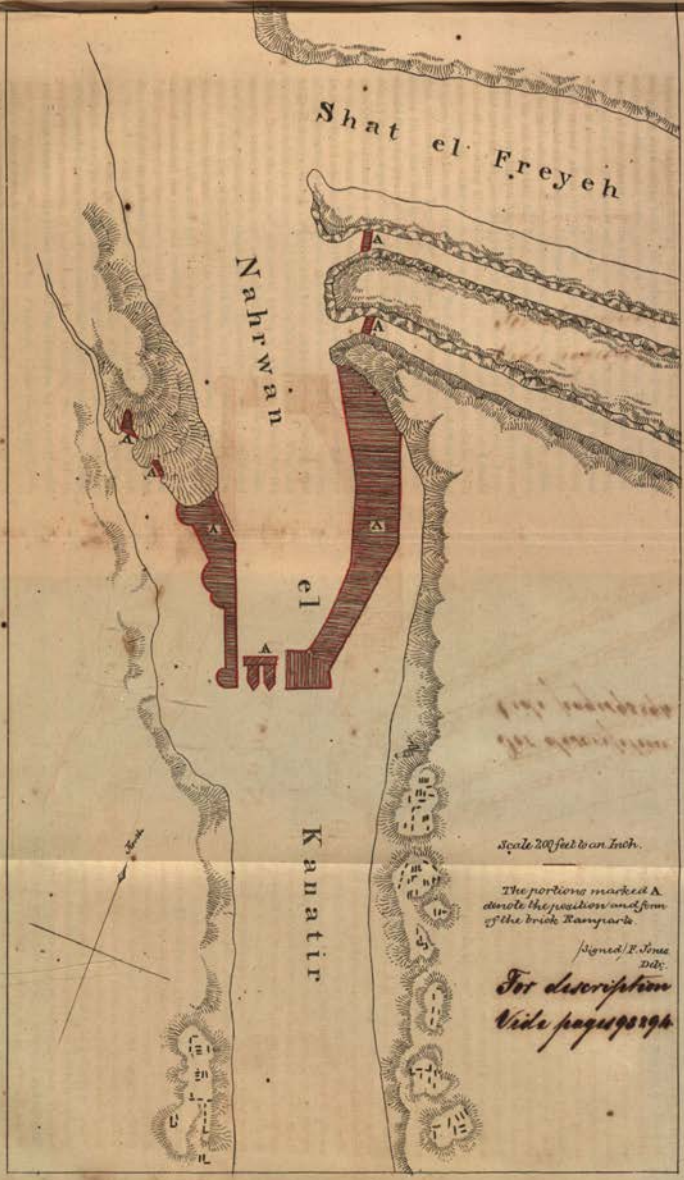
Having refreshed our cattle with a three hours' rest, we again took the saddle at 9.10, C. T., proceeding in the bed of the Nahrwan to Abu Simsim, a branch thrown off from the left bank. This we reached in forty minutes, passing a similar canal half way between our present station and the lower part of the Aberta ruins. From Abu Simsim the pile of Aberta bears 289° 30′, and the direction of the canal is 84°, the direction of the bed of the Nahrwan onwards being 131°. Proceeding on at 9.30 at a faster pace, still in the bed of the Nahrwan, in seventeen minutes ascended some elevated tumuli on the right bank of the canal, whose appearance, in my opinion, denotes an age anterior to the other ruins we have passed. Of a greater height than other mounds on the canal, they expose but few bricks thinly scattered on their surface, a sign of a greater antiquity, for the buildings lie buried under an accumulated soil. The fort, or whatever occupied this site, formed a large quadrangle, each of its sides being about 500 yards in length. In the interior two deep and circular hollows resemble amphitheatres, or the beds of artificial lakes, and at present the verdant appearance of their surfaces has a pretty effect when contrasted with the barren sides of the tumuli encircling them. The ruin is at present known by the name of Tel Tubbel, an insignificant modern appellation signifying the "mound of the drum." The few bricks seen are of larger proportions than those used in other ruined edifices on the Nahrwan, but we could not discover any character.

Leaving Tel Tubbel, a canal running in a direction of 115°, called Nahr Abu Kelb, and emanating from the left bank of the old bed, was passed. It is a mile below the former, and the Nahrwan takes a bend to the south-south-west just below its entrance. At twenty-two, twenty-six, and thirty-eight minutes distant respectively from this station, three canals, that irrigated the country in a line of 225° and 193°, are cut from the right bank of the Nahrwan, and seven minutes further on another canal left the left bank of the old stream. They all bear the name of Zahreh, and from the lower one Aberta bears 317° 30′; Kanatir, 139° 30′; Rehkhameh, a high isolated mound, 123°; Mattalawi canals, 154°; and the direction of itself is 112° 30′. Went on again at 10.48, at a fast pace, in a straight line for the Mattalawi mounds. At 11 passed the ruins of a large town on the left bank, and in five minutes more the remains of piers on both sides of the old bed showed that it was here spanned by a bridge. The town, if we may judge from the ruins, was of considerable extent, and the construction of the piers of the bridge is massive and neat. Singular enough, the Arabs have no name for these remains, or they had forgotten it, but I am told the ruins, by mutual agreement of the parties, mark the boundaries

of the Niyadat and the Shammar Togh Daym cultivations. I asked of the guide if the Government of the country had any knowledge of these territorial compacts, and whether they were ratified by authority. This was a signal for a deriding laugh from my Arab friends, and the chief answered, "We never consult Pachas on the subject!"

At the bridge, or rather at the spot where it formerly stood, I ascertained the breadth of the Nahrwan's bed as 105 yards, and at 11.12 continued our ambling pace of four and a half geographical miles per hour in a direct line for the Mattalawi branches, leaving the bed of the stream a little to the right of our course. At 11.30 we stood on the summit of these mounds, which are on the right bank of the canal. Two other cuts are seen running nearly parallel with the eastern one at a distance of a quarter and half a mile, to which my guide attached the same name of Mattalawi. The bed of the Nahrwan, from the old bridge, continues in a south by east and south-south-east course to the western of these sister canals. It then becomes more serpentine than in any part of its course, for it winds to east and north, and back again to the south-east, and, passing the Mattalawi offshoots, continues its fantastic windings (which appear to have been designed for the purpose of breaking the force of the stream on the Kanatir works) half a mile further to the north-eastward, and there a canal, bearing from this spot 14°, is cut from the left bank in a direction of 51°. The line of the Mattalawi canals is from 160° to 190°, and Aberta pile is seen bearing 323°, the station on the Zahreh branch being at the same time 334½°. A bend of the Nahrwan to the south sweeps back to within a quarter of a mile of our position, and the high mounds of the Kanatir conduits bisect 124½°. Avoiding the curves of the old bed, at 11.39 we crossed east-south-east to the bend alluded to above, and then pursued its direction, which was east-south-east and south-east. At 12 five canals were passed, which, like radii, are thrown off from either side of the Nahrwan from a bend which the old bed makes to the east, and at 12.15, c. T., we encamped at Kanatir, much fatigued; for what with riding, the frequent mounting and dismounting necessary to the observations at every canal, and the exertions required to scramble up the steep sides of the many artificial works, we had had a laborious day's march.

The carpets were scarcely spread, and the mules divested of their loads, than we had a good specimen of the innate disposition of the Arab for preying on his fellow man, and appropriating to himself the property of others not akin to him. Hitherto we had been in the Daffafeh territory, and our guide, being of that tribe, had strenuously urged my interference to prevent the destruction of the Daym crops in the bed of the Nahrwan by the cattle we had with us, and whose owners, after we were asleep, had (to save the barley they had brought with them)


Shat el Freyeh
Nahrwan
el
Kanatir
A
A
A
A
A
A
A
A
Scale 200 feet to an Inch.
The portions marked A denote the position and form of the brick Ramparts
Signed/ F. Jones
Delt.
For description
Vide pages 193 194

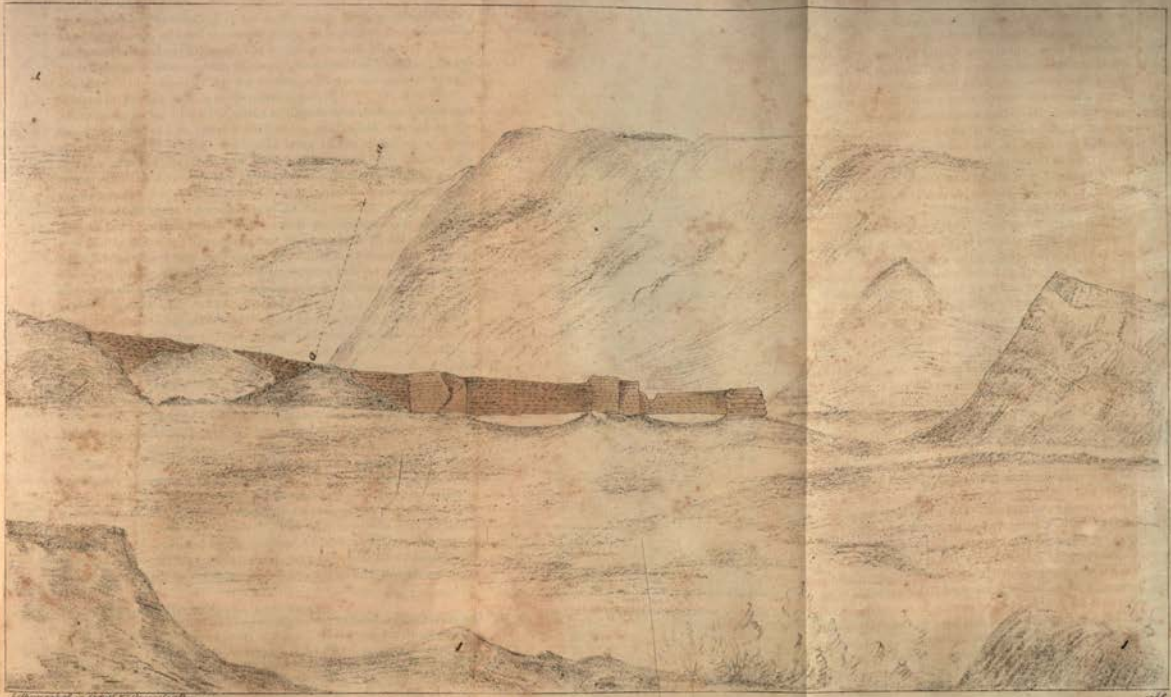
been in the habit of allowing them to seek their food, at will, among the green corn of the tribe. Of course I prohibited the theft, and the animals afterwards were prevented from straying, to the mortification of the muleteers and the satisfaction of my Daffafeh friend, Daghar. We had no sooner encamped, however, in the Shammar Togh districts, south of the boundary I have mentioned, than the whole of the horses were turned adrift in the rich crops of the tribe, and had already commenced an extensive destruction. By threats I succeeded in withdrawing the cattle of the muleteers, but the horses of my Daffafeh guide and his son had their full fling, against all my remonstrances, until the morning, notwithstanding it was himself that had urged the injury done to his tribe on the preceding evening by the ravages of the beasts. I endeavoured to show him the inconsistency of such conduct, but all I could elicit was, the thievish character of the Shammar Togh made their property lawful to the universe. The Daffafeh were retorted on as worse than the Shammar Togh; but Daghar, little caring for the opinion of others as to the character of the tribe he belonged to, was only convinced that any loss it sustained affected him individually, while, on the other hand, he regarded a successful larceny in which he was concerned upon the Shammar as an undertaking of which any one might be proud. With these ideas it was useless arguing any further, but recalling a promise that I made, of presenting him with a saddle on the completion of the journey, had afterwards the desired effect. Such is, however, Arab character, and so deeply rooted is the propensity for plunder, that it is inherent in his nature and fostered by his early tuition. That and lying, the worst vices of our social code, are viewed, indeed, by the Arabs as special gifts, and are valued according to the degree of success attendant upon their employment. Perfection in them is considered talent, while the blunderer and unskilful may be classed as on a par with the illiterate and clumsy of the European community. The former comprise the influential and diplomatic body of the tribe, while to the latter is confided the care and conduct of the cattle and the camp.

The numerous immense canals thrown off from the Nahrwan in the immediate neighbourhood of Kanatir would point out the district in which it was situate as a thriving and densely populated one, even did not the mounds on either side attest the fact. We have evidence, too, in a noble structure in the middle of the Nahrwan, of its people having attained a considerable skill in hydraulic science, and in the construction of works capable of resisting the force of an impetuous stream. On either bank of the Nahrwan at Kanatir* solid

* قناطر "The bridges," and the plural form of Kantareh; a name wrongly applied by the moderns to dams as well as to bridges.

The sketch and ground-plan will give an idea of these works.

walls of well-constructed brick gradually approach each other at their extremities near the centre of the bed of the old stream, and were connected by a dam at right angles to them of the same solid materials. Stout buttresses, at convenient and appropriate distances, support these walls; that on the right bank being built parallel to it, while the left one forms a basin-like curve, having a solid brick rampart of 90 feet square at its extremity. On either side of the dam, sluices 20 feet wide admitted or controlled the supply of water to the south. The length of the side walls I ascertained as 870 feet, but that on the right bank has only 270 feet exposed, the rest being covered by drift sand that has accumulated upon it. Both are of irregular elevation, from 18 feet at the dam to 11 feet at their extremities, and the breadth of the eastern wall is in some places as much as 75 feet, particularly where it was connected with the massive rampart I have described. The opposite one, however, is but 12 feet in thickness, but where the buttresses adjoin it attains to 22 and 29 feet, and the space occupied by the dam is 110 feet, including the sluices at either end of it. The lower parts of these are considerably above the surface of the bed, and open high up upon the dam, showing the water to have been generally at a high level. The dam and that part of the side walls that was exposed to the action of the water are ingeniously constructed to prevent the abrading effects of the boisterous torrent that had to be confined, and the former, supported by piers at its back, exhibits a firmly cemented and compact structure. Where the fall of the water impinged on the material we see the bricks placed on their edges, as they would be fractured by its weight were the flat surfaces exposed to the shock; and over the whole, to render it the more strong and durable, an artificial concrete, composed of fine lime and large pebbles, having in their interstices a minuter species, is spread, and forms a homogeneous mass well adapted for resisting so destructive an element as the superincumbent water that found its way over the dam in the winter and spring freshes, and fell, doubtless, with a stunning force on the supporting piers below. The bricks used in the fabric are exactly one foot square, kiln-burnt, and so hard that it is difficult at the present time even to detach or break them. Independent of the Nahrwan itself, if we compare the material seen at Kanatir, and its adaptation to the great work it was designed for, in modern manufacture and modern engineering, we have satisfactory but lamentable evidence of the great depreciation that the people and the country have undergone in a few centuries. Had the apathetic Pachas that have successively governed the country but paid a visit to this spot and contemplated the work before them, they might have saved the State a considerable item of expenditure, and, moreover, have obtained a lesson in the construction of dams that would have benefited the country, inasmuch as the crops that are annually



Lithographed in Govt. of N. Generals Office
Bombay January 1857.

Bed of the Nahrwan with the ancient dam & sluices as seen at Kanatir.

A. A. Entrance and embankments of a lateral Canal.

swept away by the bursting of the paltry works in their vicinity would have been saved, and the oppressed people have been spared an endless amount of compulsory labour. The late abortive and vexatious attempts at damming the minor canals in the neighbourhood of Baghdad, though superintended personally by the Pacha, reflect sadly on the state of science in Turkish Arabia at the present period.

The purpose for which the works at Kanatir was designed must now be considered, and it appears evident to me, while examining the surrounding country, that the plains lying in the direction we have hitherto followed the Nahrwan have an increased dip immediately below the Kanatir works. In excavating the Nahrwan originally from the general level of the vast plains, it was, I suppose, unnecessary to do more than follow the natural channel the fluid was inclined to take so long as it maintained a controllable career and answered for the irrigation of a large tract. This it appears to have done as far as Kanatir, but here an increasing declination would, if the stream were allowed a full latitude, have diverted its usefulness into an impetuous and destructive element. It was essential then to restrain its further passage in the direction it had previously taken, but, at the same time, to admit a governable portion of the fluid for cultivation, and for the support of life in the lower villages, whose lands were disposed to invite it; hence the obstruction we see erected here and the utility of the sluices. Further, to support this view of the case, we see an opening on the left bank of the Nahrwan, about 300 yards north of the work, equal in size to the Nahrwan itself, and running on a higher level than the bed below the dam. This must have received the greatest portion of the stream, and, I presume, therefore, it was the continuation of the original Nahrwan that is represented by the Arab MSS. to have flowed to the south-east of Badrai; while the deep bed below the dam, bearing the name of Nahrwan at present, I conclude to correspond with that portion of the canal that is described by the Arab geographers as to have been last in operation, and whose limit extended to Jumbil, and subsequently, on its decay, as far as Jarjaraiyeh only.* The more northern opening that I have described is named by the modern Arabs Shat el Freyeh.† They describe it as extending to the south-eastward as far as a place called Karail beni Syed, in the direction of Badrai, and if this branch were

* See quotation from Yakut's Epitome, at pp. 58 and 59.

† Shat شط signifies "river," but I cannot find a meaning for Freyeh, unless it be a derivative from the Arabic فري implying "rent" or "burst." In this case, were the meaning literally adopted, it would overthrow the theory I have advanced, and the destruction of the Nahrwan would be then attributable to the opening of the Shat el Freyeh. The old records, however, describing the Nahrwan's original limit as extending below Badrai, would incline to the view I have taken.

really the continuation of the Nahrwan, the destruction of the dam, either by violence or by neglected repair, admitting the water unrestrained into the low country, will fully account for its early obliteration and the extinction of its proper name, as that would naturally attach itself to the arm that was longest in existence.

The works at Kanatir, indeed, must be regarded as types of the energy of the period, for, in addition to the skilfully raised dam, we find excavated channels of considerable depth and extent for dispersing the waters over a large space. These, emanating from the Nahrwan, are disposed in well-arranged ramifications to the north of the dam, and show that the supply in the Nahrwan, by means of the fabric, was copiously maintained at this spot, otherwise so many absorbents could not have been provided for. Those immediately north of the obstruction, and intermediate between it and the opening of the Shat el Freyeh, have also well-constructed dikes across their entrances, for regulating the desired amount of water, and appear to me to have been used more as discharge valves than as irrigants, when any extraordinary pressure threatened the safety of the structure beyond. The embankments of these lateral ducts are the highest objects in the country, and at Kanatir the mounds forming them attain a greater elevation than in any other part, for here they rise between 70 and 80 feet above the level of the adjoining plains. To an experienced observer, indeed, it seems surprising that these offshoots should be girt in by such formidable embankments, while the great artery from which they derived their supply is bounded by insignificant margins, scarcely exceeding in any part of its lower course the level of the contiguous districts. The course, however, of the great conduit through the country being in the line of depression of its soils, gave a rapidity to its stream that kept it at all times free from deposits, while that of its lateral ducts, being slightly at variance with Nature's laws, caused impediments to the free passage of the fluid, and sedimentary deposits, had they not been speedily cleared, would have destroyed their utility. To the constant dredgings they underwent and the accumulation of the abstracted matter year by year, therefore, must be ascribed the lofty eminences that flank them. From the summit of that adjoining the dam I obtained a good view, and the following angles by theodolite set 360° to the minaret of Aberta* were obtained :—

Direction of the Nahrwan	356°18′
Fort Shammer on the Tigris	281·40

*On protracting the work subsequently, it appeared that I had mistaken some other object for Aberta minaret. Some heavy clouds being in the direction, and from the distance it was off, I am convinced it could not, under the circumstances, have been seen. The error will, however, only affect the bearing of Aberta; all other places will have their relative angular value with each other, and the position of Kanatir is determined independent of the mistaken object.

Tomb of Zajal Arafan	278·2′
Baghdadiyeh fort, doorway	276·30
Meyahh canal	201·17
Aghab mound and canal on right bank	193·00
Sumakeh, ruins on left bank of Nahrwan	191·09
⊙ near limb for azimuth*	162·08
⊙ altitude lower limb for ditto	14·55
Rekhameh mound	82·6
Direction of the Shat el Freyeh (approx.)	143·30

I obtained also a good meridian altitude of *a* Canis Majoris as 80° 46′ 08″,† making the latitude of the dam 33°6′49″ north.

Leaving Kanatir at 3.35, c. t., and going at an amble of four and a half geographical miles per hour, we reached the high mounds called Sumakeh at 4.10. These consist of ruins on either bank of the old stream, so thickly heaped together as to become a wilderness of brick-work extending from Kanatir to half a mile below the spot we were upon, and inland about three quarters of a mile from the margin of the canal. The mounds composed of the ruined edifices are at least 50 feet high. I consider Sumakeh to have been the most extensively populated city, or cities, on the whole line of the canal, and from the circumstance of both banks exhibiting nearly an equal amount of remains, I am inclined to view the locality as the site of Askaf beni Joneyd,‡ of the Arab MSS. From Sumakeh two high isolated mounds on the plains to the east, said by the Arabs to be on the banks of the Shat el Freyeh, and named Mesrur el Freyeh Kebir, and Mesrur el Freyeh Saghir, were observed as 52° and 68° by prismatic compass. Between Sumakeh and Kanatir some remains on the margin of the Nahrwan led me to the belief that the stream was here spanned by a bridge, for some massive portions of brick resembling piers were distinct enough. The Arabs of my party, though looking at the vestiges with astonishment, and evidently absorbed in considering the past and present state of the land they now occupy, console themselves for the loss of its streams and its pleasant fields, with the reflection that the race who inhabited the fallen structures, and the hands that raised them, were an idolatrous spawn, justly swept from the face of the country by the sword of the true believers. The universal and unsatisfactory era, termed by the present miserable occupants Ayam el Jahiliyeh,§ or "the days of ignorance," the period prior to the

* March 7th, 1849, A. M.

† March 6th, 1849, P. M.

‡ Refer to p. 38 and note * of the same page.

§ A period, according to the illiterate Arabs, extending from the creation to the birth of Mahomed, at which time *true knowledge* was first given to the world. The latter event is designated by these bigoted people as the "era of light," and though the darkness it spread over

rise of Mahomedanism, is, by the Arabs, and with justice too, given as the epoch of their prosperity, but it was, I confess, somewhat sickening to hear my ragged companions harping upon the prowess of their ancestors, whose influx had put a stop to activity and changed a country of universal plenty into one of poverty and desolation. The offspring of the locust was, indeed, beside me, and, in contemplating the peculiar structure of its nature, I was not at a loss to account for the blight and desolation around me.

Left Sumakeh at 4.30, and continued in the bed of the Nahrwan, whose banks are now much broken and somewhat lower than the country on the left bank. From these uplands the stream must have received considerable contributions in heavy rains, and a proof of the greater declivity of its bed here is the collected rain of winter lodging in this part; whereas above Kanatir, excepting at Aberta, we could not find a single pool. Here a good supply exists, though no rains of consequence have fallen for a month, and the wild fowl, therefore, congregate near the spot. We saw many ducks, a few snipe, and some Hubara;* a large wild cat too, named by the Arabs Bazun el Bir, was chased among the ruins, but soon earthed itself in one of the numerous holes with which they abound. At 5.12 the course of the Nahrwan trending more to the south, we left its bed and rode over the fine plain direct for the mound termed Meyahh, having passed at 5.5 a branch canal from the left bank named Nahr ar Reshid, that takes an easterly direction, another similar one on the right bank that watered the country in a line of 183°, termed Aghab, being a mile distant. Its bearing is given from Kanatir. At 5.53 arrived at Meyahh, a high mound situate at a point where a large canal coming from the north-north-west (probably from the Nahr ar Reshid) bifurcated. The true directions of these are given in the following angles taken by theodolite set 360° to the masthead of the Nitocris at anchor at Branej on the Tigris, and whose signal flags we have just now descried on the distant horizon. The observations are indifferent, for the sky suddenly became obscured, and a partial rain fell at intervals that prevented a good

the previous glory of Asia is palpably visible to the eye of the believer, still the sense is fettered with the conviction that no good existed prior to the advent of the great reformer of Arabia. The paradoxical faith of the Arab, indeed, is a peculiar one, and referable, in my opinion, to a singular organization of mind that will not admit of free agency as far as his doctrines are concerned. In all other respects he is the child of impulses, lawless in his actions as ungovernable in his passions. Hating yet confiding, proud and mean alternately to a degree, he still claims our respect as a being who, amid universal change, has alone retained an integrity of character, bad though it be, and a singular adherence to the primitive habits of our race.

* A species of bustard of very fine flavour, and a favourite bird among the hawking community of Arabs.

latitude being obtained. The approximate meridian altitude gave it as..... 32°59′45″N.

Kabr Harbi.....	333·23
Sumakeh	135·8
The line of the Meyahh canal to the north.....	145·00
„ „ its eastern fork	300·00
„ „ its western „	341·00

The Nitocris at the same time being by prismatic compass 202½°, and the Nahrwan's bed west of the station one mile distant.

At 6.47, C. T., quitting Meyahh we kept a direction of south-south-west, and soon met the bed of the Nahrwan. By this time a brisk rain had set in and rendered everything indistinct. The line of the canal is, however, nearly straight in this part, and continues so to Imam Imlikh, where I left off the examination on my last visit. Half a mile north of Kabr Harbi, just above the canals that leave the Nahrwan in this vicinity, the remains of brick buildings were observed on either side of the canal. Passing these we encamped at Kabr Harbi on a wet afternoon, but a north-wester clearing the atmosphere towards sunset, I was enabled to obtain the following angles by theodolite 360° set to the Nitocris' masthead, in her former position on the Tigris:—

Humanyeh minaret in Mesopotamia	327°21′
High part (station) on Meyahh canal	123·18
⊙ upper limb for azimuth*.....	0·52
⊙ near limb for ditto.....	32·04

And thus the portion of the canal south-east of the Diyaleh river, and the part to which the name of Nahrwan was in ancient times applicable only, is completed.

March 8th.—Struck the tent, and made a start for the vessel over a country that has been flooded from the neighbouring marshes around the old Christian city of Deir el Akul. We passed just to the south of the fantastic watercourse known as the Shat el Sheyleh, spoken of on my former visit, and, without seeing anything worthy of notice, beyond the extreme desolation, in an hour we reached the mounds known as the Qubbeht† Dokhaleh on the east bank of the Tigris. From thence, finding the ruined mounds of Deir accessible, the marsh generally surrounding it having dried up, we went on to examine the vestiges of the interesting city, and in another hour ascended the mounds that enclose its venerable buildings. The town must have been of great extent. At present I estimate the diameter of the space covered by their ruins

* March 7th, P. M.

† In endeavouring to give the proper orthography and sound of Arabic names, or words commencing with ق I have, at times, substituted the Q for the deep K, in order the better to convey the crow-like sound of the Arabic letter.

at 1,000 yards. Immense bricks, pottery, and broken vases in great abundance, are strewed over the surface of the mounds, which are of considerable elevation, though from the Tigris they have an insignificant appearance, the ground on which they are situate being the bed of a vast alluvial basin, considerably lower than the banks of the river. I have at various times attempted to reach these ruins, but have been disappointed, from the swampy nature of the country encircling them. Last year, however, owing to the Tigris not rising to its usual height, the marsh was left without its supply and was soon absorbed. Deir is the name these mounds at present bear among the Arabs, but the geographers and historians write it as Deir el Akul, "the abode of the camel-thorn," from its being a favourite locality of the plant. The dry bed of the marsh is now thickly spread over with the annoying but useful shrub, and caused great irritation to our horses' feet as we came along. The term Deir was originally applied, I believe, to the early nunneries and monasteries founded by the Christian Arabs, and, in those primitive days of Christianity, Deir el Akul was a celebrated abode of sanctity and learning. A quadrangular line of mounds enclosing a courtyard in the centre of the ruined town will perhaps indicate the site of the convent in which the pious sisters were immured. Stained glass of a superior manufacture was observed in many places, and some copper coins, too much corroded to decipher either legend or figure, were obtained by turning up the bricks on the surface of the mound, but not without risk of being stung, for large and venomous black scorpions were disturbed in great numbers, just recovering from the torpor they had existed in throughout the winter.

The theodolite gave the following angles from the highest mound on March 16th, on which day I again visited the spot, the former day being hazy and few objects discernible, the instrument set 360° on the fort of Baghdadiyeh :—

Magnetic north	304°00′00″
Taj tomb	7·56·00
Kabr Harbi	120·31·30
Sun's near limb for azimuth	155·55·00
Ditto altitude lower limb	6·58·00
Humanyeh minaret	175·37·00
Sheymiyeh mound	179·52·00
Fire temple at Humanyeh	230·26·00
Centre of Sheikh Fahal's fort	316·14·30

The meridian altitude of the sun on the former day* was observed as 104° 2′ 50″, making its latitude 32° 51′ 54″ north.

* March 8th, 1848.

Erecting a pile from the fallen bricks, and placing a large tamarisk bush in its centre as a conspicuous mark for further observations, served to wile away the hours I was necessarily delayed for the noon latitude. The Arabs readily entered into my views, and all lent a hand in its construction, their usual dislike for labour of any kind being overcome by witnessing myself employed on the task. One by one they came and assisted in the building, and in a short time I had raised it as high as I required, the Arabs the while singing to their labour in united chorus. Had I asked their services for the menial purpose of carrying old bricks, they would have been denied, or would have been begrudged; and I merely relate the circumstance to show how soon these children of impulse may be brought to aid in any purpose by example, and by a good-humoured indulgence of their natural caprices. When neither goading nor money will secure the ends in view, these seldom fail; while, on the other hand, intemperance and haste serve only to widen the breach, and perhaps will end in mutual bad consequences. When the pile was finished the usually grave "lion," at his own request, was assisted on to the top, and, drawing his sword, commenced a song and a caper that would have been worth a fortune to Catlin of Red Indian notoriety, the rest accompanying him in dot-and-go-one gyrations around the fabric, brandishing their naked weapons as in the sword dance, and vociferating in horrible cadence and *ex-tempore* song at the full capacity of their lungs.

The latitude obtained, we turned our footsteps from the hallowed spot and made the best of our way to the vessel, now on her way up the reach of the Tigris to pick up the party, and in half an hour were again exchanging salutations with our friends and shipmates.

Having thus disposed of the Nahrwan Proper, I became anxious to trace the main conduit north of the Diyaleh, which at the present time erroneously bears the same name, but which in early times possessed the discriminative appellation of Katul, and was further distinguished by the affix of the royal title El Kesrawi of the Sassanian kings.* An opportunity was afforded shortly after my return from Basreh. Equipped, therefore, with my usual surveying apparatus, and, with the exception of Sheikh Subba, having nearly the same party as before, we left Baghdad on the 24th March. A few days previously the fine spring weather had been succeeded by a heavy south gale, that was attended by clouds of impalpable dust and an oppressive heat, that, as we anticipated, soon caused a rise in the waters of the Tigris, by thawing the masses of snow, reported as more than usually deep at the foot of the Taurus and on the mountains of Armenia and Kurdistan. Two days of such weather, after the fine cold we had experienced, sufficed to con-

* Making Katul el Kesrawi. See also preliminary remarks.

vert the usually placid stream into an impetuous and roaring river. As early as the 22nd March its average annual height had been attained, and on the night of the 23rd the pressure was so great upon the "bunds" to the north of the city, that they gave way. The still rising waters thus found a vent, and the country in a few hours lay some feet deep in water. By noon, on the 24th, the flood had reached as far south as Gherareh, and in an hour or so threatened to surround and isolate Baghdad itself, by a junction with the waters of the Diyaleh. With great difficulty, therefore, we escaped from the city before this took place, for we had to make a long detour through bog and water before we cleared the lower grounds. The authorities, the troops, and the townspeople, in alarm for the city and its communication with the adjoining country, are all now actively engaged—Turk-like, when too late—in attempting to stop the further progress of the flood, by hastily constructed dikes that should have been erected before, and the Arabs of our party are in considerable fear of being seized to aid in the works, which would certainly be their fate if not in attendance on myself. As we pass we witness the forcible detention of those who, having business in the city, were, unfortunately for them, on their way to the gates, and many an appeal is cut short by a blow of a truncheon, or the butt of a soldier's musket; but in commiserating the fate of these *déténus* I am wandering from my subject.

At 4 P. M.* we had got into the open country, and some extensive ruins called Dhubbai gave us a good view of the progress of the flood. In a single night the whole face of the plain as far east as this had been transformed into a vast sea, and the mind, formerly at a loss to comprehend how the great works of antiquity had been swept away, became at once aware that successive floods, caused by a neglect of confining the rivers within their limits, had been the destructive element that had levelled them; as in this instance, where the ruined edifices have been heaped so as to form mounds, the traces of the canals that watered the town can be plainly distinguished, but beyond them are entirely obliterated. I presume it to have been formerly a suburb of Baghdad, and, doubtless, surrounded as it must have been by magnificent gardens, was a favourite retreat of the more wealthy and luxurious citizens. From these ruins the old minaret of Suk el Ghazl in Baghdad bears 245° 15′, and the shrines of the Imams at Kathemein 276° 45′.

We now kept a road called Durb el Sidaveh, over an uninteresting and barren plain. In forty minutes an ancient canal, now called the Tabur, was crossed. Its line northwards is 12°, and southwards 188°; and Khushm el Khor bears from our station on it 105°; Sifweh, 61°;

* On this journey the true times are given in the Journal, as a pocket watch was carried in addition to the chronometer.

Baghdad and the road we came 243°; Kathemein, 265°. This canal emanates from the lower Katul, or, as it is called by some, the Little Nahrwan, and two others are observed diverging from the Tabur, one on the left to the south-west, the other to the east in a direction of S. by E. ½ E. Continued our previous course at 5.30, and encamped on the right bank of the Diyaleh, opposite but a little north of Sifweh. The following bearings will determine the spot:—Sifweh, 92½°; Abu Arug,* 141°; Baghdad minaret, 240°; direction of the Diyaleh to the north, 318°; a curve of the Diyaleh, 33°; another, 186°, about two miles distant, and the bend of the stream to the north of Sifweh, 71°. ⊙ centre at setting for variation, 275°.

The night was dark but very brilliant with stars, and sleeping in the open air, as we did, the cold was anything but pleasant. A good fire was, however, made, after some difficulty from a scarcity of wood, and our Arabs, scantily clothed as they were, preferred passing the night in conversation around its embers to seeking a disturbed sleep in the cutting wind at a distance. Comprised as the party was of Kurds, Arabs, and Baghdadis, the features of the group, lit up as they were by the flames, formed a fine subject for the artist, and the good-humoured countenance of our friend Syed, an old and grisly-bearded negro, who had spent his life in Bedouin camps, and had prepared for three parts of a century the universal beverage of the Arabs,—glowing at the different tales,—exhibited in silent delight a set of white teeth that acted as a fine contrast in the scene. The droll and inimitable expression of his half-closed eyes made Syed, with his coffee pot, a welcome visitor at all times, and the juice of the Yemen berry, expressed with a consummate skill, and savoured with the comic physiognomy of the *artiste*, became henceforth denominated by a brother negro, who spoke a little English, by the not inapt name of "tickle-belly," for its presentation and genial effects, like the risible gas, generally produced an immediate fit of laughter.

Pursuing our journey at 6.35 the following morning, in a direction of 18°, we came upon the bed of a stream in twenty-five minutes from our starting point. This was observed coming in almost a straight line from a point marked as 30° by the prismatic compass, and is doubtless a continuation† of the more modern and southern Katul, the main conduit that irrigated the lands lying between the Katul el Kesrawi, or Nahrwan, and the river Tigris. The Nahrwan itself is seen immediately

* Tomb on the left bank of the Nahrwan, noted on my former journey, and pronounced indifferently, Aruj, Arug, or Aruk.

† On the journey made in September 1849, noticed in note p. 44 of the preliminary remarks. I found this irrigant to be a branch only of the Katul, which conduit crossed the present bed of the Diyaleh, and is traceable in a line contiguous to the Katul el Kesrawi on the east of that river.

on the opposite bank of the Diyaleh, so we may presume that the latter stream, on resuming its natural course to the south after the decay of the canals, was confined to the space immediately between them; their embankments on either side offering sufficient obstacles to a diversion until it reached beyond the turning point of the Nahrwan below Sifweh, when we see it assume a south-westerly course, no longer controlled by the artificial works on either hand. It is now about 200 yards north-east of our present station. The bed of this canal, which I shall term the Lesser Katul, here takes a bend to the west for a short distance, and after throwing off the irrigants called the Tabur (see yesterday's Journal), is said to be lost at a place called Khirr el Sifin on the Diyaleh. This spot, though having a modern name, was doubtless the furthest limit of the lower Katul, for immediately south of it we see the lateral ducts from the great Nahrwan came into full operation, and were prolonged as far as the Tigris itself, watering on their passage Ctesiphon and the towns adjoining that capital.

Leaving the small portion of its course unseen to the south, I now determined to follow up the bed as far north as possible, proposing at a future time to complete it, as well as the continuation of the Nahrwan between Sifweh and Bakuba, on the opposite side of the present course of the Diyaleh. Accordingly, at 7.10, we continued in the bed which is here neither deep nor wide, but bears the appearance of an irrigant that has been attenuated to its limit of action. In twenty minutes we came upon a branch that left its right bank and extended into the country in a line of 245¼°, and the shrines of Kathemein are seen on the same bearing from a mound at its mouth that bears the name of Tel Abtar. We now observe the bed of the lesser Katul above this duct attaining an increased breadth, but, like the whole of the large conduits whose lower portions flow through alluvia, it bears all the characteristics of a natural stream; and we may presume, therefore, that the gentle windings the waters of the canal have followed were originally marked on the face of the country by accumulated rains, whose general direction, being parallel to the dip of the surface, would, of course, be the line of conveyance of the greater body, while the larger of the rills or streamlets, that branched in accidental depressions at variance with the other, would serve to denote the direction that the lateral cuts should pursue. Aided here and there by artificial embankments, the scarcely perceptible but natural furrows have doubtless guided the designer of these works in conducting them through the softer soils, and the sinuosities I have spoken of are readily explained. The bed is now about 40 yards broad, and the following observations, obtained from Tel Abtar, will give its position: —Tel Kidri, 6°, this is another mound at the head of a branch canal from the lesser Katul; Khan beni Saad, 344° 30′, on the road to Bakuba;

minaret of Baghdad, 228° 30′; Abu Arug on the Nahrwan, 171°; Habesh tomb, 57° 30′.

Proceeded at 7.50 in a waving direction from 19° to 10° in the bed of the canal. At 8.43 we stood on the Kidri* (Khudreea of Lieutenant Grounds' map), where it left the lesser Katul; and an opposite branch, coming from a line of 30° into the left bank of the canal, at once proclaims the latter's connection† at this spot with the Katuls on the other side of the Diyaleh. The Kidri is a large duct that appears to have watered the whole of the country to the north-east of Baghdad in the flourishing era of the province. A large mound is a conspicuous object at the head of this old irrigant, and from it I obtained Khan beni Saad as 320°; direction of the lesser Katul's bed, 14°; direction of the Kidri's junction with the Nahrwan, now broken in upon by the Diyaleh, which is 300 yards distant, 30°, its opposite line of bearing is 220°; Abu Khomeis, a tomb on the Khorassan canal, 49° 45′; Habesh, another tomb, 120°. Our course to this spot back, 178°, waving. From the Kidri the country to the north becomes more elevated, and the alluvium is lost under the superincumbent strata of loam and marl, particularly manifest in the deepened bed of the Diyaleh, the cliffs of which, bounding it on either side, now confine its meanderings through a well-formed valley.

At 8.55 continued our progress to the northward on the course given above, and from this time until our arrival at El Fet'hha, at 10.30, the east bank of the lesser Katul was in close proximity with the westerly bends or turns of the Diyaleh river; the canal at times even being quite obliterated by its encroachments. At this station the lesser Katul assumes its character as an artificial work, which, considering the superior elevation of the country, is in accordance with the design. The bed becomes straight and deep, and the embankments are well marked and continuous. Divergents on either side, as in the greater Nahrwan, here show that its maximum point of usefulness was attained as a conduit, for, although a few lateral ducts emanated from its right bank to the north of El Fet'hha, by far the greater number are to the south, and a large opening at this spot, now pointing across the Diyaleh, marks its having been connected with the Katuls on the opposite side of the stream.

From Kidri to El Fet'hha the banks of the canal show traces of ruined habitations, which, though faint from being immersed in successive inundations, by their extensiveness point to the locality at one time as a very populous one. At present nothing is to be seen but a solitary

* This is the name my guides would persist in calling it by, though I suspect the other is the proper term.

† This affords ample proof of the non-existence of the Diyaleh in its present course while these canals were in operation.

caravan, that has arrived thus far on its way from the interior of Persia to the holy shrines of Nejaf and Kerbela. The load that the weary beasts carry is typical of the aspect of the once animated soil, for, slung like panniers on either side, they bear, in ill-constructed coffins covered with a species of coarse carpet, the decayed relics of the fanatic race that inhabit that country for interment in the *blessed cities* that contain the bones of the martyred Ali and his ill-fated progeny. This posthumous journey to the great Necropolis of the sect is imagined by the credulous Shiah as ablative of all sin, for (like in chemical affinities) it is believed the mingling of the ashes of the sinner and the saint precipitates the impurities and evolves a purified essence acceptable in the paradise of the Moslem. Besides the dead, there are others nearly allied to them, if we may judge from their emaciated and travel-worn appearance, on pilgrimage to the mausoleum of the Imams, having walked more than a thousand miles on foot to reach the haven of absolution, being too poor to pay the expenses of an animal for the journey. The caravan proceeds at its measured pace, with the coffins swinging to and fro, while the bones of the dead inmates, clattering to the step against the boards that confine them, awaken the still air with their horrible discord, and must sound like a knell to the lagging and foot-sore zealots that accompany it, and whose appearance is in painful contrast with that of the sturdy muleteers, who either bestride the corrupt laden animals, or walk along singing at their side, like resurrectionists; indeed, these latter look on the scene as a professional one, and to display humanity would evince a weakness detrimental to their calling. It has passed onwards, leaving, methinks, a morbid trail on the rich grass that now carpets the bed of the canal, and we bivouac, too, in a part uncontaminated by its progress. While I had gone to the summit of the mounds one of the party, to procure water, descended the steep bank of the canal that is cut away by the Diyaleh. His astonishment was great, on arriving at the margin of the stream, to find a man, in a garb foreign to the country, lying quite exhausted in a shaded part of the cliff. He was roused with some difficulty, and brought helpless and gasping to our sitting place. After we had fed him on rusk and dates, and thus recovered his strength a little, he proved to be a Herati follower of the caravan I have spoken of, and had been four months from Herat on a pedestrian pilgrimage to Kerbela. He was evidently in the last stage of exhaustion, principally from fatigue and starvation, and the inhuman muleteers, callous to his previous sufferings from these causes, had not only refused him a ride, or a particle of food, but had left him here to die, or to reach Baghdad in the best way he could, in the event of survival. Despatching a horseman after the caravan, it soon returned,

and I then formally made over the miserable pilgrim to the chief of the party, threatening to bring his conduct to the notice of the authorities, if he did not carry him in safety to the city. This had the desired effect, and we had the satisfaction, after replenishing his wallet with bread and dates, of seeing him fairly mounted on the back of a mule, *en route* for the city. From El Fet'hha the following bearings were obtained:—Bint el Husseyn, 170°; our course latterly to this, 182½°; Khani beni Saad, 235°; direction of the lesser Katul and our course onwards, 14°. The meridian altitude of the ⊙ was also observed as 115° 56′, and its latitude is therefore 33° 36′ 45″ north. A beautiful species of scarabæus with a gold-spangled back was observed here; it is not found, I believe, in the alluvial districts.

We remounted at 2 P. M., and continued in the bed of the canal, which, above El Fet'hha, is much broken by the encroachments of the river Diyaleh. Our course has been as near as possible 11°, without anything worthy of note; but at 3.30, after carefully tracing the canal over and beyond the broken places, I had the satisfaction of observing its connection with the large and deep conduit known as the Katul, or Gatul, of the Arabs of the present day, which is now seen extending from this in a perfectly straight line of 343°; and the following places bear respectively from our position as follows:—station on El Fet'hha, 190° 45′; Abu Khomeis, 161°; Weiss, a tomb, 167°; Qubbeht el Leyl, 128°; Bohriz, centre of the grove of, 56° 30′. We now galloped in the latter direction over a fine plain, and in a few minutes stood on the banks of another splendid work, similar to the lower Katul in appearance, but really the original one of that name with the further designation of El Kesrawi, the royal title of the Sassanian monarchs. As before mentioned the old name has lapsed to the more recent work we have just quitted, and by the ignorant tribes now occupying the country that of Nahrwan has been substituted, and with some reason, for it was the great artery from whence the Nahrwan derived its current. From motives that I have given in the preliminary remarks I shall continue to call it by the name it is at present known by in the Journal of its survey, but, with a desire to revive and perpetuate the antiquated title as written in the Arab MSS., it will be styled Katul el Kesrawi in the map. The work, indeed, is worthy of the royal distinction, and, dried up as it now is, its bed offers, after traversing the arid plains that adjoin it, a good comparative field for contemplating the past and present history of the land. The traveller,—wearied with the monotonous picture presented to his eye, as hour after hour he scans the same flat and desolate prospect, broken only by remnants of canals, that, like sterile islands in a frozen sea, serve but, when first viewed, to relieve the languor that is felt,—is suddenly aroused from

his conjectures regarding them by seeing beneath his feet, in a straight and continuous line, the source from whence they emanated. The excavated bed, 150 yards broad, and at the present time about 30 feet below the level of the contiguous land, with embankments of the same height above the soil, would mark it as the channel of a deep and rapid stream, constructed in a prior age when labour was compulsory, and when a monarch's will was the despotic call that assembled the masses then comprising the population of this once favoured region. Elevated above the country on a conspicuous mound forming a part of its embankments, the traveller, in his imagination, calls to life the scenes enacted at various times in the neighbourhood. He pictures to himself the healthy verdure that carpeted the barren tract before him, and the numerous silver streams that gave being and vigour to the umbrageous trees that doubtless adorned the country embraced by his view. The landscape is further diversified with mansions and cottages, with flocks and herds; and his lively imagination can distinguish, as it seems, the activity and hum of the industrious race that occupied it. Over a massive bridge that spanned the royal stream, at a distance from where he stands, he conjures up a panoplied array of footmen, horsemen, and elephants, under the personal conduct of the great Anushirwan, on their way to conquest, or to avenge themselves for national injuries on the Christian states of the west; and as the pageant flits by, the mind reverts to the voluptuous era of the monarch's grandson. The rustling of silks and the lively strains of music are broken by the impatient whine of the greyhound, as the glittering throng, attendant upon Khusru Parviz and his beautiful Shirin, press forward on their excursions of love and the chase; and while contemplating the altered manners of the court and the people, in their descent from warlike habits to effeminacy, a cloud is seen in the south that casts a dimness over the sunlit picture, never to be effaced. A wild and half naked race, scarcely heard of before they emerged from the deserts that had nurtured them, mounted on their swift steeds, convert the pleasant prospect that is being considered by the traveller, into one of horrible disorder. The altars and the sacred fires that have been preserved for ages are thrown down and extinguished, blood flows commingling with the streams, and the wailing of the vanquished is heard above the din of battle and the Allahu Akbar of the victors. The Arab, the sword, and the Koran, and, in their train, pestilence, famine, and a sudden death, lie like incubi on the land, and the beautiful vision of the past at once resolves itself, in all its naked deformity, to the gaze of the visionary, who, recalled from his trance, cannot help pitying the descendants of the locust brood now squatting at his feet and wondering at his past abstraction, for in them he thinks he sees the instruments of some wise design that has not yet even been accomplished.

The following bearings were obtained at the station:—El Fet'hha, 192°; Abu Khomeis, 166°; Qubbeht el Leyl, 150° 30′; and the direction of the Nahrwan, 345°. We now proceeded in its bed, which we observed to cross the line of the Diyaleh to the south of us, and at 5.10 the course we had come was taken back as 167°, and onwards 338°. We are now opposite the date-groves of Howeydeh and Khanabat situate on the east of the Diyaleh, which river has of late encroached on the canal and swept its east bank in this part entirely away. The right bank is yet perfect; and, meandering from side to side in the ample bed of the old canal, is observed, as if in mockery of it, a rill from the Khalis canal that a few miles above severs the antiquated conduit in the direction of its several irrigants. After twenty minutes' halt, to allow the party to close, we continued our route, and in fifteen minutes more the remains of some massive brick piers on the banks of the canal point out where a bridge had been erected, and some mounds on the east bank denote the situation of a contiguous town. At 6 we encamped on the banks of the canal, with Khanabat grove bearing 80°; Kalaa village, 344°; and Aswad date-tope, 310°, about three-quarters of a mile distant.

The following morning we continued our progress, but were soon compelled to leave the ancient beds, for from Aswad to Khan Nahrwan the Khalis cultivation and a branch derived from that canal named Tahwileh have obliterated them. On the north of the Khalis, other derivatives from it in like manner traverse both the Nahrwan and the Katul. These are named in succession, the Saadiyeh, the Jedideh, the Alibat, the Jezani, and the Sindiyeh. Skirting the villages and groves of Deltawah and the lower Jezani, we passed the Khalis, and the several canals I have enumerated, by ill-constructed and dangerous bridges of loose wood and earth. Wading through swamps and around garden walls, a true course of our progress could not be recorded. These places are, however, sufficiently well determined by our present observations to show their positions with regard to the ancient works in their vicinity, and for the present they are left with the intention of ascertaining them more correctly at a future period. Everywhere around these villages there is abundance of cultivation and well-watered gardens. The wheat and barley, waving to and fro, is a great relief to us after our barren ride from the gates of Baghdad.

We halted in the bed of the Katul close to Khan Nahrwan, a place of accommodation for pilgrims on the road to the shrines at Samarrah, at 9.45, and spread our carpets on the rich grass with which it is clothed, to await the noonday observation of the sun. In the mean time I received a visit from Ibrahim, the Sheikh of the old tribe, called the Beni Timim, now located on the waste lands north of the Nahrwan, between

it and the Atheim. Originally from Nejd, this portion of the tribe has long since occupied this part of the country, but poverty has compelled it to put aside the pride of birth and pedigree, though it still boasts, in retention of the name, a connection with the old stock. The fine old man was very civil, and purposed going off to his camp to place a relation of his at my disposal as a future guide, for, after leaving the Khalis, the cultivated districts and partial civilisation are exchanged for barren wastes and predatory tribes, that, if not in open rebellion, are at variance with the government of the country. The Englishman, however, so long as he conducts himself with propriety and respects the prejudices of the singular people he is among, is a welcome guest in the camps of the nomades. Though of an opposite religion and of an opposite character, he meets from them generally, especially when known, as much courtesy as their habits can bestow, while to the Osmanli, and, indeed, to all around, they are either avowed enemies or at best but distrustful companions. Being so is not so much a trait of character in the Arab, but must be ascribed to the system that has been adopted to bring him under government, a system, however answering the desired motive for the time, is characterised by treachery and faithlessness, and in the end fails in securing him as a willing servant of the State. New devices are then studied to entrap him. With some they take effect, while with others they are regarded in their true light, as machinations, only to last so long as suspicion may be lurking in the mind of the wary and more shrewd. When this has ceased, the cloak is withdrawn, and neither plighted word nor oath pledged on the sacred Koran will save the too confiding Arab from the vengeance of his oppressor.* There have been occasions when severity was doubtless called for, but I still think the rapacious Osmanli has originated them by taxing the tribes to an extent beyond their means, while, at the same time, from a selfish penuriousness, he has not a fitting force at his disposal to keep them in check and to enforce the law upon the refractory. This has caused mutual hatreds and mutual deceits, and a resort to every artifice on either side is the result only of a nefarious system, practised by a Government that has neither the moral nor the physical power of controlling its subordinate officers and subjects.

Another digression; but noon has now arrived, and accordingly the latitude of Khan Nahrwan, and the southern bank of the Katul on which it stands, is obtained as 33° 52′ 43″ north from the meridian altitude of

* The fate of Sofuk, the hereditary chieftain of the most powerful tribe in Mesopotamia, will remain as a lesson to the Arab for some time to come. Though the Sheikh deserved death for his many offences both against government and against the rights of hospitality, yet the system employed to compass his death by assassination will ever remain as a blot on the character of Nejib Pacha.

the sun observed as on March 26th, 1849, 116° 11′ 10″. After ascertaining the breadth of the Katul's bed as 105 yards at this spot, I proceeded with a party in a direction of 135°, so as to trace both it and the Nahrwan to where the upper canal of the Khalis, named the Sindiyeh, crosses their line to the south-eastward. The Katul touches the north-east point of the Alibat grove, and the south-east limits of the Nahrwan's banks are one mile distant east of it, immediately below the points where the offshoots I have before given are derived from the Khalis canal. From the spot where the Katul touches the Sindiyeh canal, Kalaa trees bear 108°, and at the Nahrwan's point of contact with the modern irrigant the bearings are as follows:*—Jedideht el Amiyat village, 92°; Imam Khamseh, a tomb, 110°; Kalaa trees, 129°; Imam in Nahrwan, 158°; Aswad trees, 164½°; Alibat grove, 243°; Kom el Sindiyèh, an ancient mound (distant about a mile) at the junction of the Sindiyeh with the Khalis, 42°. The whole of the modern irrigants before named are here parallel to, and only separated from each other by a narrow strip of land sufficient to prevent the unity of the streams.

We now (4.32) proceeded up the bed of the Nahrwan, which is here also called El Tyh. It is much flooded, from the Sindiyeh canal having burst its banks in the last few days, and numerous wild fowl, finding it a snug retreat, have resorted to the spot. A ride of twenty-two minutes brought us to a high mound on the left bank of the ancient conduit, where the road from Baghdad divides, that to the left leading to Samarrah, while Delhi Abbas is reached by the right. Here a good view of the surrounding country is obtained. The cliffs forming the eastern boundary of the valley of the Tigris are seen about two miles distant, and to these the lines of the Katul and Nahrwan are both distinctly traceable, but are lost for some miles beyond, the Tigris, in changing its bed from the neighbourhood of the Median Wall to the position of the modern Sindiyeh, having swept them away. With a glass, however, we can distinguish the line of the Nahrwan's continuity on the distant cliffs near the mouth of the Atheim. These, much broken by winter torrents and the abrasion of the river, form a deep bay to the right of the line of the old course of the canal, and in the valley of the Tigris below them, a long and well-cultivated alluvial Hawi† has, by the late high rise, been entirely submerged. The crops, prostrated by the force of the current, and exposed again by the fall of the stream, appear to be spoiled, but we are told they will yet revive, if not visited by a second inundation. From this spot, as far as the eye can see to the north, is an

* Variation of the needle, 3° 40′ west.

† Hawi, the name given here to the shifting alluvial deposits that project from the high cliffs in the valley of the Tigris; the whole are generally well cultivated from Sindiyeh to Tekrit.

arid waste, undiversified by either tree or shrub. The barren flat yields not even a blade of grass, and the glare from its whitened surface is quite painful to the eye. Turn to the south, however, and the scene is strikingly changed. The face of nature was never more gay. Vast fields, plentifully watered, exhibit a refreshing verdure, and the sombre foliage of plentiful date-groves yields a shade that softens the landscape, which is further heightened by the progress of men and animals from place to place, or by numerous herds that are enjoying the rich pasture around. The Nahrwan, indeed, severs the Desert from the cultivated plains, and, like in confirmed paralysis of the human frame, is the mesial line that separates the living portion of the country from the dead. They are here displayed in hideous contiguity, the defunct portion preponderating over the living mass, and aptly illustrative of the state of the province.

The theodolite, set 360° to the Khan Nahrwan, gave the following angles from this spot; magnetic north answering to 224° of its arc:—

Jedideh el Aghawat, village	357°22′
Jezan el Faïli, extremes of the trees of	345·23
	343·30
North extreme of Alibat grove	301·25
Nahr el Aswad village	295·00
The line of the Nahrwan in one with Kalaa	273·30
Kom el Sindiyeh, an ancient mound	253·27
Nai, high part of an old Parthian fortress	110·40
Direction of the Nahrwan onwards	92·30
Sindiyeh village	44·00
Jezan el Ajem	36·00

We now returned to our station in the bed of the Katul, making the distance between the ancient works as one geographical mile.

March 27th.—Leaving the Khan Nahrwan at sunrise, and keeping the course of the Katul, in seventeen minutes arrived at a high Tappeh* on its right bank, about a mile south-east of the spot where it is broken by the Tigris. Here again put up the theodolite set 360° on the high part of the Khan, having in a line with it the north point of Alibat grove. The following places subtended respectively:—

Khanabat centre	350°00′
Kalaa trees	347·00
Kom el Sindiyeh	327·00
Nai, high part of	212·5
High part of Nahrwan in the distance	183·30
Sindiyeh and Jezani villages in one	125·00

* Turkish; signifies an artificial mound or tumulus.

Extremes of Saadiyeh grove	96·00′
	87·00
Jedideh el Aghawat, in one with an ancient canal, a lateral branch of the Katul coming from this spot	68·30
Extremes of Mansuriyeh grove on the Tigris	84·10
	78·15
Station on Nahrwan (yesterday)	308·55
Magnetic north	135·00

The Sindiyeh and northern Jezani canals now flow parallel to each other from Alibat to this. Here they slightly diverge towards their respective villages, and while the angles were being observed three immense wild boars started, surprised by the party, from the brushwood on their banks. My companion having brought his horse with him from Baghdad was twice, spear in hand, close upon the heels of the largest, but, cut up as the ground was with the deep canals reaching to the saddle, the pigs had the advantage, and were wise enough to keep to the water instead of venturing in the open ground. After an hour's fatiguing trial we despaired of driving them from their secure position, and accordingly pursued our course for Sindiyeh by Jezani along their respective watercourses. The latter was passed in a quarter of an hour from our station on the Katul, and Sindiyeh was reached in a similar time from Jezan. Here the vessel had arrived a few hours before us, and after fixing the position of the village again by chronometers and a latitude at noon, we resumed our route for Nai; traversing the country by the same path we had come in the morning, we crossed both the Katul and Nahrwan, and emerged at once into the desert country beyond. The ruins of an ancient town were observed between the old conduits where a branch connected them of the same width as the canals themselves, and from the appearance of its bed I am inclined to consider it the effect of a disruption of the bank of the Nahrwan, and, in this case, it must have swept away a part of the town in its course. No names apply to these vestiges at present, but the town was evidently a considerable one from the quantity of brick, pottery, and slag, of a highly vitrified order, abounding on the spot.

By 2 P. M. we had left the cultivated lands, and, under the protection of a new guide from the Beni Timim, we traversed the Desert before described in a north-west direction, but frequently altering our course to avoid the numerous fissures made by the rain on its passage to the Tigris through the marl districts bordering on the river.

At 3 we crossed the broad but dry bed of a torrent termed the Khirr*

* Khirr is a name in use in this part of the country for natural fissures formed by small streams, or winter torrents, and differs from that of Nahr only inasmuch as the latter is adopted generally in reference to excavated works.

el Maghthab, which, when full, must have yielded a large body of water to the stock in the ancient Nahrwan. At 3.30 we stood upon the walls of Nai, evidently Parthian or Sassanian construction. They are built of massive sun-dried bricks, similar to those met with in the buildings I have before enumerated of these eras. The building is quadrangular and about 100 yards in diameter only, with its interior quite open, and could have served no other purpose than as a keep or place of security to an adjoining town of some extent, whose ruins are passed over on the way to El Heymer. Beyond its great age there is nothing of interest in the ruin, but both it and the adjoining town must have derived their water from the Nahrwan. The name is certainly not Arabic, and may be traced probably to a Pehlevi or Syriac origin. At Nai the following bearings were observed:—Sindiyeh, 189°; Alibat, 158°; Tel* Heymer, 311° 30′.

The Beni Timim families are now encamped on the plain which is dotted with their black tents and their numerous cattle. Being near sunset the latter are being driven to the Tigris, which is at a distance of two miles, for their daily draught of water; and a procession, headed by the Sheikh, with whom we had an interview the day before yesterday, welcomes our party to the camp. We are, however, forced to decline the intended hospitality, being pressed for time, but we are compelled to partake of some fresh buttermilk they have brought in wooden bowls, and an Arab cheese, not very inviting in its present form, must be swallowed in compliment to the donors.

Having completed our observations at Nai we continued across the plain in a direction of Tel Heymer (see bearings from Nai), passing over the site of the town I have mentioned as adjoining the ruin. The mounds covering its edifices denote its circular form, but nothing beyond could be ascertained. The usual remains were thickly strewn over them. The patriarchal Sheikh, by way of compliment, accompanied us thus far on our way, and now took a friendly leave. An hour's fast amble from Nai brought us to Tel Heymer, which appears to be the ruin of an isolated tower only, of the same era as the other ruins, with a few scattered buildings around it. The plain on which it stands is somewhat more elevated than the flat land we have passed over, and apparently of a more productive soil, for grass is sparingly seen in the hollows where rain has fallen, and the beds of the torrents that are passed between El Heymer and a portion of the Nahrwan, still existing on the summit of the cliffs east of the Atheim, abound in natural vegetation intermingled with a variety of wild flowers. At El Heymer the flags displayed by the Nitocris at anchor off the mouth of the Atheim

* An isolated mound is called in Arabic Tel, and is similar in meaning to the Turkish Tappeh.

river bore 248° 30′, and Nai 131° 45′. Leaving the ruin, the valley of the Tigris was gained in half an hour's quick amble, just as the sun went down, but we had the mortification to find a recently inundated alluvial Hawi, of two miles in extent, prevented us from communicating with the vessel, it having been converted into a swamp too soft to bear even the weight of a man, and it was with much difficulty we could obtain drinking water though pools of it were not a stone's throw from our position: the cattle, indeed, were compelled to go without; and one horse, in attempting to reach it, was with difficulty withdrawn from the tenacious bed he inadvertently ventured upon. The night set in bitterly cold, with a cutting north-west breeze, and this was much felt by the party, from a scarcity of wood not enabling us to maintain the usual fires. The high cliffs close to our position, undermined as they had been by the great rise that took place a few days back, fell with a stunning noise into the Tigris at intervals through the night.

Our signal fires had been observed from the vessel, and the next morning, at daybreak, she dropped down to the spot, but, before we could communicate with the people on board, we had to undergo a perilous scramble over the tottering but still erect portions of the cliffs, that are now surmounted by the much-broken bed of the gigantic Nahrwan. On attaining the bed of the canal, where it is broken by the river, it was a curious and interesting sight to witness, under the very spot that, centuries ago, the ancient stream had flowed over, the mast-heads of a British steam vessel, decorated as they were with the ensign of the nation, and some other flags that had been hoisted as signals for the surveying party; while a glance over the verge of the cliff itself, exposed the hull and the white decks to our view, reposing like a swan upon the still waters of the Upper Tigris. While sighing at the wreck of the past, it was not the less gratifying to behold the descendants of a nation, then unknown to history, pacing to and fro, with a proud confidence in their own power, on a complex fabric of recent invention that they can claim as the offspring of national genius, perfected by native science, which, with steam as a motive power, enables them, indeed, to penetrate, in comparative security, the interior of foreign and but half-civilized states, and, viewed in a geographical light alone, has contributed materially to aid in the progress of discovery and research.

After fixing the position by chronometrical observations and the following corroborative bearings:—Tomb and trees of Syed Mahomed, 264°; direction of the Nahrwan onwards, 302° 30′; Khan Dholöiyeh, 298° 45′; Sindiyeh, 148° 30′; Nai, 106° 45′; El Heymer, 62° 40′; and ascertaining by admeasurement the breadth of the canal's bed as 128 yards, we proceeded on our route, but were compelled to make a detour

to the north before passing the Atheim river, to avoid the numerous Khirrs, or winter torrents that cut up the country within two miles of the valley of the river. The depth and extent of some of these ravines indicate that the Nahrwan in its flourishing period was considerably augmented by the torrents that in the winter now tumble uselessly into the Tigris. Their beds are at present dry from a scarcity of rain during the last two months, but all exhibit a highly verdant crop bespangled with flowers of every colour and hue; among which we could recognise the dandelion, the crocus, the common daisy, and the little Scottish "gowan"; the rich scarlet-headed poppy too, sometimes in thick beds, and at others sparingly scattered among the other flowers, gave a pleasing contrast to the pretty scene. The Khirr Nooreh and Khirr el Heymer are the largest of these ravines.

By 10.30 we had reached the Atheim which flows in a valley similar to the Tigris, and is bound by high marl cliffs of the same nature and form. The, at present, petty stream occupies but a few yards of the valley, which is upwards of a mile broad in many places; but I am told that occasionally in winter months it becomes a turbulent and fractious torrent, quite impassable when thus swollen. In the bed of the shallow stream the last traces of the tertiary formations are visible, showing that the marls we have passed are but superimposed strata of no great depth in this part. As in the Tigris, alluvial Hawis project from the perpendicular cliffs of the valley, and can be viewed only as water-deposits that vary with the direction of the stream. They are mostly covered with brushwood and small tamarisk, and might be cultivated but for the uncertainty of the floods. Insignificant as the stream now is, it took us an hour to ford it, for the late rise and subsequent fall have left on its margin banks of viscous mud that the laden beasts could scarcely get through. The instruments were, however, by good management brought over dry, but not so other portions of the baggage, and while all were more or less engaged in the passage of the animals, an ignoble horse, bestrode by one of the muleteers, had contrived to spoil the expectations of our Arab guide, by an admixture of impure blood with, what he termed, the pure Nedji breed of his mare. It threatened to end in an open quarrel, had not the rest of the party interfered, and the insult, as it was termed, was not forgotten, but brooded over for same days. The incident, however, caused much mirth, for the fellow had been boasting of the pure stock of the animal for some time, whereas Kadeish* was stamped in legible characters on every part of her frame.

Having quieted the brawlers and re-arranged the baggage, after

* Kadeish, a name applied to draught horses, and in use as a term of demerit among horse dealers.

ascending the cliffs bounding the valley of the Atheim to the west, we turned to the south so as to meet the course of the ancient canal, and in half an hour again stood on its elevated banks which overlook the flat country to a considerable distance. We are now about one and a half mile to the west of the spot where the Atheim, resuming its natural course after the destruction of the great dike, which I shall presently describe, severed the Nahrwan, and probably first caused its decay. Xenophon, in his Retreat of the Ten Thousand, remarks the passage of the Physcus about the fourth day after crossing the Tigris at Sitaki,* and the geographical position of the modern Atheim indicates it as the same stream, for the Nahrwan, or rather Katul of the Sassanians, could not have been then excavated. The place where Xenophon crossed it, however, near the position of Opis, must have been at its point of junction with the old bed of the Tigris, a distance of twenty miles south of the present confluence of the stream, for we have evidence that the Tigris, at no very distant period, materially changed its course, and, indeed, swept away the canals, as we see in the present day. The old river still is traceable in a deep and well-defined bed in the position ascribed to it in Captain Lynch's excellent map, and the Arabs I have with me fully corroborate its delineation. The site of Opis, therefore, as I have advanced in a previous paper,† must be looked for on the line of the Tigris' former course, where the Atheim disembogued into it, and not in our immediate vicinity, where modern explorists, for some unaccountable reasons, have agreed in fixing its identity.

At this spot the Nahrwan is 140 yards broad, with a depth of 20 feet below the surface of the country. It still continues its straight and decided artificial character, though much broken, from its angular position, between the present Tigris and the Atheim. Its course onwards is 309° 30′; Khan Dholöiyeh, from this spot, bears 283°; tomb of Syed Mahomed, 240° 45″; direction of the canal back, 122°. Continued at 12.45, and in twenty minutes reached the spot where the Batt canal and the large branch emanating from the Tigris at El Kaim joined the main stream. This is an interesting portion of the old conduit, but as I have to examine the Batt canal, I shall leave the description of the ruins in this locality to the last.

* Sitaki is considered on good authority to be identical with the suburb of the modern Baghdad on the west bank of the Tigris; and, notwithstanding the generally received opinion, imbibed from oriental authors in the history of the Khalifs, that Baghdad was founded by Mansur, the second Khalif of the Abbassin family, on an entirely new site, or rather, as some say, on a spot destitute of anything but the garden of a solitary Christian hermit, we must now admit its erection, from recent discoveries of cuneiform inscribed bricks in regular buildings, on a site once occupied by a Babylonian city.

† See also pp. 130 to 132 of this paper.

We accordingly quitted the canal for the vessel now at anchor a little south of the modern Khan Dholöiyeh, which is a halting place for caravans on the road to Samarrah, erected from the ruins of the works in the bed of the ancient stream. It is a filthy yet commodious resting place to the weary pilgrim, but not always a secure one, for it has to be abandoned at every visit of a marauding party, and is in general either totally demolished or partly destroyed only, according to the temper of the tribes at the time. By sunset that evening I had arranged for a further absence, and after rating the chronometer anew, and securing a Khanchi* as a guide, passed the night among the rich cultivation in an adjoining Hawi preparatory to an early start on the morrow.

March 29th.—With a long march before us we were in the saddle as day was breaking, but had some difficulty in threading our way through the swamps that have succeeded the fall of the river. By 7.10 we had reached the Nahrwan half a mile above the dam and started for the Batt canal, on a direction of 30°. At 7.40 we came upon it after traversing a perfectly flat and uninteresting country, and continued our course along its bed, which is here well marked but not ten yards wide, in a direction of 11°. Progressing over the same monotonous void at a pace of three and a half geographical miles per hour, at 8.45 some extensive mounds, now termed Dhahubeh, mark the site of a town that formerly occupied the banks of the Nahr Batt. The guide informs us, that a large quantity of gold and silver was once found here, and its name, having reference to the former metal, may give credence to the story. The usual remains of brick, pottery, and scoriæ are profusely scattered around. The Malwiyeh el Samarrah is distinctly seen from Dhahubeh on a line of 283¾°, and is evidence of our having ascended considerably in our two hours' progress to the north. The high mound at the ancient bridge opposite the junction of the Batt with the Nahrwan bears 200½°. From this the Batt takes a more easterly direction, as 44° of the prismatic compass, and this line is continued with but slight variation for an hour and three quarters. At 11 we halted at a distance of two miles from the Atheim only, on the site of an ancient town, now represented by several mounds on either side of the Batt. These are called at present the Tellul Nar.† Fragments of old pottery with some curious devices, among which the folded snake, as an emblem of eternity, was observed, and a dog of the same material, but coated with a green enamel, were obtained nearly perfect. Large bricks and a profusion of highly vitrified slag were spread in thick

* One of the proprietors of the Khan.

† تل Tel signifies "a mound" or "elevation," and تلول Tellul, employed here, is the plural form; Tellûl Nar would signify "fire mounds," and is apparently a modern appellation. The site, however, may have been occupied by a fire temple, and hence probably its name.

disorder over the surface of the extensive heaps. It has doubtless been a considerable town, and the figures of animals and reptiles portrayed on the broken vases proclaim its era as prior to Islamism. The meridian altitude of the ⊙ obtained here at noon gives the latitude of the ruins as 34° 13′ 51″ north.

At 1.45 remounted, still keeping on the line of the Batt in a direction between 30° and 48′ alternately; at 3.4 the canal is seen as divided into two channels, and the adjoining soil, exhibiting some very old furrows, would seem to mark the locality as the former site of some large groves. There are no evidences of ruins here, but half an hour further on some high mounds, covering ruins at present named Sathha, point to the locality as a well-populated district. The ground is strewed with the usual relics, and a great quantity of broken glass in a vitrified state was occasionally seen sprinkled amid the detritus. Some copper coins entirely corroded were also observed, and a piece of hard pottery, apparently part of a dish, now in my possession, whose surface is enamelled with mother-of-pearl, is a curious and beautiful specimen of encaustic glazing in vogue at the time. Other mounds to the west of this position, and named Mismeh, were pointed out to us as marking the ruins of a town. At 3.45 continued on a course between 30° and 35′, with the intention of encamping on the Atheim river, for neither water nor pasture is obtainable for the cattle at a distance from its banks. The Batt, which from Sathha takes a more northerly course, was now left. At 4.42 we skirted the broken cliffs bordering the valley of the river, and in an hour came to an encampment of Azza Arabs. Here we bivouacked on the margin of the stream, whose current may be at the present time about one and half mile per hour. Its breadth does not exceed 20 yards, but the features and width of the valley, through which it flows, bear evidence of its impetuosity and great extent at times. In ordinary wet seasons the Atheim has, in this month, a different aspect from its present insignificant appearance, the drought of the last two months having drained it of the greatest part of its water. In the summer the bed is frequently dry, but the Arabs continue to encamp in the valley for the sake of the pasturage, and, by excavating the soil, water is at all times obtainable, as they say, delightfully cool and pure. It now forms a succession of deep pools, which abound with a large species of mullet that gives zest to the simple fare of the nomade families. A three-pronged grain is employed to take them, and in its use they are very expert.

We found our new friends, the Azza, very civil and communicative, and had scarcely spread our carpet before they had seated themselves in a circle around. Many of these people, I find, are acquainted with the influential Christian merchants of Baghdad, and, indeed, are employed

by them to raise the Daym crops, the seed being furnished them for this purpose, and, in return for the harvest, they obtain from their patrons a supply of dates and clothing, which, though luxuries to these poor people, are not commensurate in value with the merchants' gains. On the other hand, it must be considered that they are too poor to sow to any extent themselves, and, indeed, too independent to take the trouble and risk attending it, but so long as the merchants are willing to do this and despatch them the means of raising a harvest, they will undertake to scatter the seed on the ground, leaving the rest to Nature, and the chance of a plentiful rain to aid in its growth. As they constantly reside in the vicinity of the Atheim, and experience a benefit by entering upon the merchants' views, a mutual interest is felt and perpetuated. But few families of them are west of the Atheim at the present time, for of late the differences existing between them and the Ayazza, a powerful tribe to the north-west, have rendered them cautious of venturing across the stream. A lamb, fish, butter-milk, and milk were brought us as a present by the chief, and yielded a sumptuous repast. These offerings are, however, attended with much expense, for they seldom fail to abstract double and treble their value in coin in return; but, in this singular country, unless one travels as a beggar and then enjoys the hospitality gratis, it is incumbent on the party to make an acknowledgment to the servants, if not to the head-man of the tribe.

At day-break the following day we were again pursuing our journey, but it took us some time to clear the broken ground skirting the river. The day, to my mortification, set in cloudy, and I despaired, therefore, of being able to get observations of the sun. By 6.40 we had gained the high ground, and, in order to get a sight of the Batt, kept a direction of 311°. At 7.2 it was crossed, and a course was now made at a short distance from it of 11°. At 7.43 Tel Willi, on the east of the Atheim, bore 144°, and at this time the undulations called El Aith form distinct ridges on the plain, increasing in elevation every mile that is advanced. These are of pebbles, but covered with a smooth earth, and run parallel to the direction of the Hamrin hills, and may be said to mark the south limit of the great tertiary beds in this meridian of longitude, for the tertiary rocks are at no great distance below the surface in this country, when these siliceous depositions are exposed to view. The space between these ridges is richly clothed with grass intermingled with wild flowers, among which the camomile and a variety of stocks were prominent. By 8.37 we had reached the foot of the barren ridge known as the Hamrin, and the soft soil of the low country, that scarcely emitted sound from the horses' feet, was instantly exchanged for a loose pebbly region, that clattered beneath the iron-shod hoofs of our animals, much to the astonishment of the gentle Arab that had been reared on the plains.

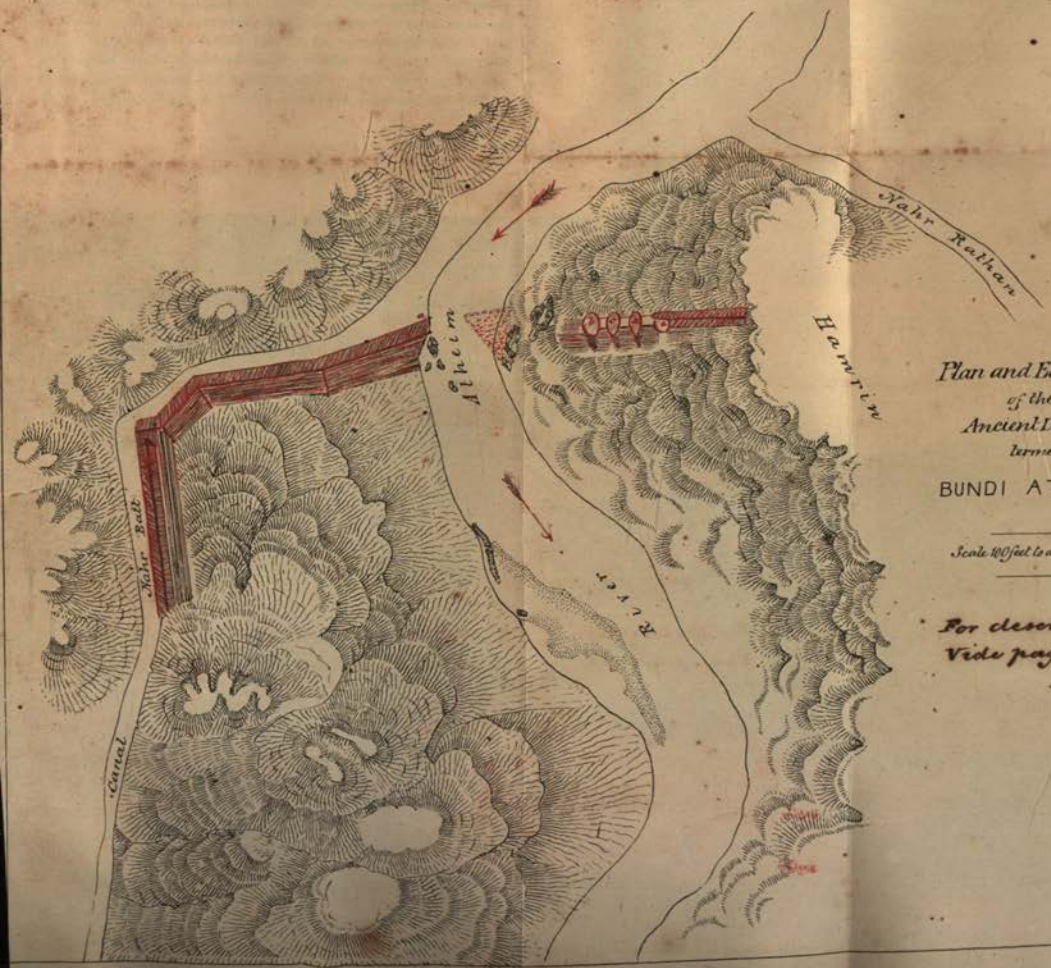
Lithographed in the Q.S.M. Van Diemen
Bombay February 1857

RIVER ATHEIN

View of the Valley & annual dam erected across it, obstruct the passage of the River over the plains to the south

Section showing the Valley of the Atheim with the Front Elevation of the Ancient Dam

Side Elevation and Section of the Dam from the East Bank



Plan and Elevation of the Ancient Dam termed

BUNDI ATHEIM..

Scale 40 feet to an Inch.

For description Vide page 121.

Riding along the elevated banks of the Batt canal, in a few minutes we arrived at its point of contact with the Atheim, which river is seen winding through a break in the hills about 80 feet below us. The Hamrin rise in this part about 300 feet above the plains, and the breadth of the valley of the Atheim is as near as possible 600 feet. The stream at the present time occupies about 50 feet of this only, but the appearance of the limestone rocks that confine it, at 30 feet above its present level, will bear out the character given to it, of a rapid and impetuous torrent, when swollen by the rains of winter. Before the Nahrwan could be in operation it was necessary to confine this destructive watercourse, and the skill and energy of the period are manifest in the work before us. The stream was, however, deemed necessary to maintain a proper supply in the greater Nahrwan, and, though it was diverted from its natural channel, we find it traversing the country on a much higher level, and dispensing its benefits on the way, over an otherwise barren tract, finally entering the great conduit by the canal which we have journeyed along, at present known as the Nahr Batt; and a similar canal, the Nahr Rathan, left the east bank of the Atheim, in like manner irrigating the great plain of Gharfeh on the opposite side; this last was not, I think, connected with the Nahrwan, otherwise its bed would have been seen; the natives, moreover, deny that it was conducted there, and affirm that it was lost in irrigation. The dam has evidently been at one time a strong work, composed of roughly hewn blocks of sandstone, purposely wrought with uneven edges to give a greater hold to the concrete employed in binding them together. These vary in size and shape, some being oblong, while others are square; the latter have a diameter of three feet, the former of 16 inches only, but both are of the same depth of 16 inches. The concrete used as mortar is very durable, and made by an intermixture of minute pebbles with lime of a very fine quality, obtained, as is the stone, in the immediate vicinity. The front of the dam exhibits a perpendicular wall to the direction of the stream, and the back, built terrace-wise from the bed of the river upwards, opposes a strength in conformity with the sustained pressure. At its base the structure attains a breadth of 36 feet, gradually lessening to 23 feet at a platform 6 feet below its surface. The centre, however, has been either swept away from neglected repair, or destroyed by an enemy.

The latter is the most probable, for the Nahrwan was the defensive bulwark of the capitals occupying the isolated tract between its stream and the Tigris, and the letting loose of the waters of the Atheim into their original course would effectually remove the more formidable barrier, by undermining the artificial conduit, and involving the surrounding country, with its towns, villages, and fields, in one common

ruin. Near the summit of the portion occupying the east side of the valley are the remains of sluices for admitting as much of the water into the dried-up bed as was necessary for cultivation. These could only have been used when the Atheim was at a great height, for their floors are at least 33 feet above the present level of the river. The abraded state of the concrete spread over them for protecting the surfaces of the floors, and the undermined condition of the substantial buttresses of brick between the sluices, show that they were long in operation, and establish the fact of the success attendant on the erection of the structure, even did not the ruins of substantial towns on the Batt canal attest its great utility also. The top of the dam is at present 40 feet above the level of the water, and the lofty situation of the sluices conveys at once an idea of the body of fluid sustained by the magnificent work before us, for, when full, the whole body, dammed up as it was, must have presented a sheet of water 200 yards in breadth with a depth of six and seven fathoms, in many places. The sluices were each 7 feet 4 inches wide, but the dimensions will be better understood from the accompanying plan. The buttresses, constructed in an oval form, are massive and compact, and exhibit a very neat order of brick work.* Where seen in section, separated by the river, the Hamrin hills exhibit beds of stratified limestone and sandstone with a superimposed stratum of conglomerate of varying depth; the whole evidently supra-cretaceous, and apparently uphove in some convulsion of Nature. The strata on the east side of the valley incline to the south-east with a dip of 65°, while those on the opposite side are nearly vertical, inclining to the west.

We have nothing to guide us as a clue to the history of the structure, nor does, I believe, a single work extant, of the old writers, even allude to it, or to the stream itself, if we except Xenophon, who places his Physcus in this locality, and which is generally pronounced, from the itinerary of his famous Retreat, as identical with the Atheim. The destruction of the work, though great evils must have followed it, is also left unrecorded. Its origin is doubtless due to the Sassanians. Tradition assigns it as a work of Amleki or Amalekites, but these favourite masons of the Arabs are generally supplied to fill up a tale, when history is vague and imagination speculative. Some caves in the cliffs at a short distance from the dam were pointed out as the residences of

* My lamented friend, Dr. Ross, in his notice of a visit to this spot described in the Journal Royal Geographical Society, vol. xi. part 2, p. 132, gives Suliman Pacha the credit of erecting these buttresses when making a futile attempt to restore the dam. A closer scrutiny would have shown him that these fabrics were the identical ones in use when the sluices were in full operation, and one may be seen partially imbedded in the more solid materials of the old work. Suliman Pacha, I believe, repaired some parts of their facings, and the Arabs, everywhere alive to found great stories upon small events, have a ready tale to satisfy every querist.

this early building community, but as I regarded them as excavations made for the lime and material, I declined going to see them, as I had plenty of occupation during the few hours of our stay. The river was not fordable, and, to obtain the measurements on the other side, it was necessary to swim it, which was accordingly done, though a bitterly cold day in March. A shirt, a pair of riding boots, and a measuring tape were conveyed dry on the head across the stream, and in this garb only we completed the operations, much to the astonishment of a party of the Azza Arabs that had heard of our arrival, and, of course, soon collected on the opposite bank of the river. The sight of Englishmen is at any time strange to these wild people, but to see us in our present guise both surprised and amused them. We were at once pronounced as madmen as we skipped in spurs and shirt among the ruins, and the benediction for this class of people was solemnly uttered by the elders of the tribe. The younger and more sagacious, however, thought we had a method in our madness, and we were asked confidentially when the restoration of the structure was likely to be completed, for they foresaw, as they said, the occupation of the country by the Feringees, adding that it was ours before and would be so again, alluding to the conquests of Alexander and the wars of the Romans, of which they have some traditions, but are all more or less distorted and vague. Some of our new friends gave us excellent advice relative to the proper season for building the foundations, and when they saw me observing the sun for the latitude, it was settled that I was consulting the horoscope for a favourable time to commence. These people were not so civil as those we met with on the preceding night, and, moreover, they took the opportunity, when we were absent on the opposite side of the stream, of plundering some small articles that had been negligently placed in their way. Their departure was singularly abrupt, I thought, and at the time unaccountable, but the abstraction of our property, I found afterwards, was the signal to decamp. The observations made place the interesting work in latitude 34° 32′ 50″ north, and 17′ 7″ east of Baghdad, chronometrically determined.

With but little time at my disposal and fortunate in obtaining a sight of the sun after the cloudy aspect of the morning, it was not worth while delaying longer in the neighbourhood, though there are doubtless some objects of a secondary interest in the quarries and in the Nahr Rathan. We therefore left after filling the skins, in order to break a long stage of thirteen hours, destitute of water, lying between the Bundi Atheim and the Tigris. A course of west was kept over and along the ridges termed Aith, that I have mentioned before, for six geographical miles. The ground passed over was very beautiful and literally strewed with flowers in full blossom, of great variety, and

colour. The soil in the high grounds is evidently more productive, for the contrast between it and the lower lands, passed on our journey of yesterday, was very great; the latter being, in the absence of water, a barren, friable marl, while here we have a rich green sward bespangled, as I have mentioned, with the wild geranium, a great variety of the common stock, anemone, the wild camomile, and the crocus, besides other plants whose names I am ignorant of. Arab esculents, too, are not wanting, among which are the truffle, and a pod in taste exactly the same as that of the English pea, but not above an inch in length, with a downy epidermis and a longitudinal indentation on either side, like that observed in the stone of the date. Its resemblance to the scrotal appendage of a young kid has given it, among the Arabs, the name of the Khasu el Jiddi.* The plains, however, abound with antelope and Hubara,† and some scattered quills show that the porcupine's habitat is in the locality also. Two snakes were seen among the ruins, and one that we killed proved to be of a harmless and common species.

Having attained the distance of six miles from the hills, our guide kept us a course of north-west, very wide from the proper direction, and as he had béen procured from the Azza Arabs who had visited us in the morning, we were suspicious of his intentions, particularly as we could distinguish some smoke not far from the track we were inclining to, and, moreover, the region was notorious for harbouring depredators both from the Azza and the Albu Ayatha tribes. Sandhills now began to show themselves, and the guide affirmed we could not go straight from the loose nature of the soil at every step, and, having heard of this local peculiarity before, we proceeded onwards. Though we had not seen the tents of the tribe whose smoke was discernible, the lynx-eyed inmates had descried our party at a distance of at least three miles. From the increasing dust we imagined they were in pursuit, and the spyglass showed a large body of mounted Arabs careering in every direction, to give their horses a good wind before pouncing upon us. We called a halt on the summit of a mound, quite prepared for being stripped, or otherwise, according to the temper of the party in pursuit, for our small force was not in a situation to oppose the numbers that were advancing; and a general run would have been as vain as undignified. As usual with them, a single horseman preceded the body at a full gallop some way in advance as a vidette, and, if necessary, to parley, in the event of the enemy showing a determined front, in which case, to avoid bloodshed, a compromise takes place, and by the payment of a sum of money the caravan passes unmolested. If, however, the odds are great on the side of the Arabs, they fall at once on their prey, and an indiscriminate plunder strips the wayfarer of everything.

* *Testes agni.* † A species of bustard.

The state of the odds is generally known long before the collision, for, though useless, the weaker party takes to rapid flight, and perhaps, in this instance, the unusual posture we assumed, of standing alongside our miserable horses, guns in hand, had some effect in deterring our pursuers. The scout was met at a short distance from our position by another detached from our party. As they met, the points of the projected spears were thrown in the air, and, standing at a wary distance from each other, for, on the Desert, the rule is that every one is an enemy until he is proved to be a friend, sundry questions were asked and answered, and the scouts returned with the same speed to their respective parties. They proved to be a portion of the Ayatha, under Sahdun's son, and at enmity with the Government. We had been taken for a caravan of pilgrims direct from Persia, *en route* to the shrines of the Imams at Samarrah. When informed, however, that we were English come to spend a few days of the spring season on the Desert, the hostile attitude was exchanged for one of invite and welcome to their tents. We pleaded the long journey before us before we reached the Tigris in excuse, and resumed our way, while they went slowly back to their encampment. It was, at all events, consolatory to reflect that we were neither Persian pilgrims nor a trafficking community, for, had we been, that night would have been spent in a state of nudity, and how many would have reached the Tigris, travelling barefooted, naked and without water, through the deep sand we afterwards traversed, is a matter of speculation.

We found our guide right in his description of the difficulties attending the direct journey between the Bundi Atheim and the village of Dur on the Tigris, for we had now reached the margin of a sunken district called Toos,* in which are many sandhills that are said to shift about and alter their shape with every fresh wind that blows. The highest of these singular drift-hills is named Moktaa el Ras,† and, I presume, is thus called from its being the most northerly. Wells are sunk in many parts of this inhospitable tract, and water, I am told, is always found on reaching the soil beneath. These wells, however, constantly require to be dug afresh, as they fill up if deserted for a short time even. At sunset we had reached a dry valley termed the Wadi Awad, that comes from the Hamrin hills, and bears evidence of being a considerable stream in winter. It would appear from its direction to be the principal source of the supply of water to the sunken track during the rains, which, percolating the drift-sand on the surface, lodges on a hard subsoil, perhaps of argillaceous marl. Evaporation is thus prevented, for the heat cannot pierce to any depth in the sandy tract, and a cool draught is thus furnished to the Arab on a spot where the mind

* A Turkish word signifying very "fine dust." † "Severing the head."

cannot believe in its existence. In the torrid heats of summer even, I am informed that tents are frequently pitched here, and the many pyramidal mounds serve admirably as look-out places, from whence, unobserved themselves, the Arabs can issue on their plundering excursions.

The Wadi Awad is rich in grass and pasturage. Its general direction is 15°, and opposite 230°. Here, however, in a place so well adapted for it, no Daym is seen, and its absence marks the abode of the thorough predatory races, who neither sow nor reap, excepting, as regards the latter, it be the property of their more civilized brethren. After a drizzling night we proceeded on between the similar heaped-up mounds of sand on a course of 278°, and in an hour Moktaa el Ras bore 335°, at a distance of a mile or so. The direction of our march was now changed to 265°, 250°, and 245° alternately in the next two hours and a half, and subsequently, for half an hour, to 265°. At this time (9.6) the sandy tract had been passed, and the sterile, pebbly stratum of the surface of the lower plains was entered upon, after crossing two salt-water streams (at 9.40) named Sahreh and Nahr Milha, that, coming from the west-north-west, find their way into a marsh a little to the south-east of this. Much salt is collected there by the inhabitants of Dur, who transport it to Baghdad by the river. From these streams to the Tigris is over a barren heath, contrasting greatly with the pretty sward passed over yesterday. Nothing whatever breaks the view. Destitute of water, the Arab merely crosses it on his search for plunder, but makes no permanent stay, and until the banks of the Tigris are in sight the eye in vain wanders for a resting place. Two and a quarter hours distant from the salt streams, on a course varying from 235° to 225°, brought us to a new discovery, for an ancient canal was crossed that we did not know the existence of before. They apply the term Hadideh to it at present, but I suspect it to be the continuation of the Nahr Hafu that has its origin immediately below, where the Tigris breaks through the Hamrin hills. Its course is quite straight, well marked, and about 30 feet broad on a line of 322° and 142° of the prismatic compass.* Dur minaret can be seen from it on a bearing of 278°, where we crossed it. We now kept a course of 247°, and in twenty minutes passed over the road leading from Dur to the salt lake described above, in a direct line of 98°; Dur minaret at this time bore 282°. In an hour and forty minutes more, the high mound at the ancient stone bridge, called Kantaret el Resaseh, near the head of the ancient conduit, was reached, and in a few minutes more, traversing its gorge-like bed, the broad stream of the Tigris was gained, and to none was it ever more welcome. Both men and animals

* I presume it was connected with the Nahrwan by the lateral branches seen on the north side of that great work. See map.

made a simultaneous rush to quench the thirst that had latterly become urgent; the horses, indeed, had been twenty-eight hours without water, and, for the last nine hours, had been urged along at a rapid pace with the additional disadvantage of a hot south-east wind that had set in since the dawn.

Rain had not fallen for two months, and by the time we had pitched the tent in the bed of the old Nahrwan, it came down in torrents and lasted throughout the succeeding day (April 1st). We were consequently compelled to remain motionless, and our party, now thoroughly saturated and badly off for provisions, were exposed also to the cutting breezes that blew fiercely down the excavated defile. A partial clearance at noon, however, enabled us to send to Dur for provisions for man and horse, but, on their return, the country, from the dry and arid tract described yesterday, had become a swamp, and horse and man fell with the load on their return, unable to join us without assistance. This was despatched, and we had the satisfaction at sunset of sacrificing a sheep, at what may be considered the *ultima thule* of our researches, for the entertainment of our shivering followers. They are of course hungry enough, and in high glee at the prospect in store for them. All are fully occupied in the process of flaying and dressing the victim, and ever and anon a prayer is breathed for its tenderness. The hour for the wished-for meal has arrived, the Bismillah has been said, I fear, without a thought of its holy meaning, and the noise of anticipated pleasure has given place to the silence usually indulged in by orientals at their meals. Every finger is deeply imbedded in the Kabobd sheep, and, as satiety is arrived at, the Ya! Rabi!* of satisfaction and fulness is followed by the El Hamd'l Allah of thankfulness and content. Hands are either washed in the stream or are wiped on the beard at the pleasure of the owner, and the party again seat themselves around the night-fires, for it is dusk; while the "night-cap" of the Arab, the refreshing coffee, is being prepared by the good-humoured Syed. It is duly swallowed, and the last embers of the pipe are turned out, when, one by one, with the exception of the watch, they stretch themselves out for repose, though the night-owl and the jackal threaten to invade their slumbers. The clouds have now broken, and the moon in all her splendour lights up the Desert scene fully as bright as she did in the days of the land's prosperity and greatness. The difference is, however, great! and as we stand on the margin of the cliff formed between the rapid Tigris, which still flows as it did of yore, and the angle of the excavated work of the Sassanians, we trace the lights and shades on many a building of antiquity, which, though crumbling to

* يارّبى A pious ejaculation signifying, "Oh! my God!" but in frequent use as unmeaning phrases among listless and well-fed orientals.

ruin, have for many generations stood erect, as if in mockery of the hands that reared them. Embraced between the classic river and the extended arms of the royal canal, a tract of land, of thirty miles in extent, is thickly strewed with the monuments of the past, and now, with the exception of the modern Samarrah, a paltry village, it boasts not of a habitable abode. The Malwiyeh, Tel Alij, Ashik, the Khalifa, and the tower at El Kaim,* all excite a deep interest, not so much on account of their antiquity, for, with the exception of the second and last, none are of an earlier date than the era of Abbassin Khalifs, as for the great contrast they display with the present condition of the land and the impoverished state of its population. Did we not see the mansions and towns, the canals and bridges before us, we could not appreciate or credit even its past condition, nor could we conceive by comparative analogy the numbers of the human race that gave animation to the deep silence that now reigns over the deserted cities. The silence is, indeed painful, and, occasionally broken as it is by the howling of the jackal, a relief is felt in keeping with the scene. There is music, harsh as it may appear, in the jackal's voice, at least, so it seems to me, especially in this land endeared to all by historical associations as the theatre of the great deeds of old. The deep bass of the matured and the alto and soprano of the growing and the suckling, as they issue in full cadence from the tombs and deserted vaults of its kings, sing alike a wail for the mighty dead. I love too another denizen of these wastes and desolate cities, the sapient owl! and its very name of Boomeh't el Kharaib ("owl of the ruin") of the Arabs, has in it a poetry for me; for when peering into its large and lustrous eyes, devoid of either animation or expression, it is like searching into the deep blue of the skies, for they speak of a deepness of wisdom beyond my comprehension, and as it sits absorbed, as it were, on yonder fragment of a wall, I imagine that the creature possesses a clue to its past history, which, like a closed record in a cabalistic tongue, I can neither read nor unseal.

The observations obtained the succeeding day for the chronometer and for latitude, place the head of the royal canal in latitude 34° 24′ 40″ and 39′ 34″ west of Baghdad. The variation of the needle was ascertained also as 3° 40′ westerly.

Shortly after noon we quitted the head of the canal, and proceeded to the high mound on the left bank, close to the ancient stone bridge now known as the Kantaret el Resaseh, but which is identical with the site of Kasri Mutawakil or Jaferi of the quoted MS. in the preliminary

* A more detailed description of these places will be found in Dr. Ross' Journal, printed by the Royal Geographical Society, vol. xi. part 2, and in a former paper of my own in the Bengal Asiatic Society's Journal for April 1847. I hope, if time is allowed me, to have a further opportunity of making a detailed plan of this locality.

remarks.* It was the only stone bridge in its whole course, and the granite its foundations were built of is still being excavated from the bed of the canal. Its present name is derivable from the "lead" used to clamp the stones together. Here the following angles were observed by the theodolite set 360° to the Malwiyeh:—

Tomb of Imam Hassan Askeri	2·17′
Abu Delif or Hatem spire, one and a half mile distant	9·20
Ashik, ruin of palace on west of Tigris	16·20
Mehjir mounds opposite the head of the canal	137·50
Head of the canal, latitude and chronometer station	155·40
Imam Mahomed Dur, tomb at Dur	194·29
Minaret of Dur village	196·44
Tel Benat, an ancient tumulus	209·58
Direction of the Nahrwan southwards	338·32
Tel Alij, an ancient tumulus	351·53
Magnetic needle, on its arc	163·00

To transcribe the journal of operations from Kantaret el Resaseh would be tedious and uninteresting, especially as the general description of the canal is contained in the geological features of the district touched upon in the preliminary remarks. The map will convey an idea of its windings and lateral adjuncts as far as I traced them, and it remains, therefore, only to state that the principal objects enumerated both in the map and in the Journal from the head of the Nahrwan to where I left it, on March 29th, in pursuit of the line of the Batt canal, were determined by trigonometrical data, from a base measured on my return to Khan Dhlöiyeh. As we ride, however, along the elevated embankments of the margin of the canal towards the Khan, we are astonished at the wilderness of ruins before us; but our hasty progress, pressed for time as we are, will not allow of more than a passing glance at the present moment. These, indeed, must be subsequently examined in a detailed survey to give the interest the locality is entitled to, but I think it right to place on record the observations and angles that were taken, so as to prevent their loss to the geographical public, which is too often the case, when documents of this nature remain in the hands of individual parties. To obtain these the Malwiyeh was visited as well as the old palace of the Khalifs, now termed the Khalifa, whose latitude I ascertained as 34° 13′ 37″ north, and Tel Alij, a fine old tumulus of greater antiquity, I think, than any monument in the vicinity, yielded from its summit the following angular values, the theodolite being set 360° to the Malwiyeh:—

Imam Askeri, tomb of the Imam in Samarrah	3·15′
Khalifa, or Khalif Matassem's palace, high part	38·45

* Page 37.

Ashik palace, on west of the Tigris, north-west and south-east angle	69°18′
Abu Delif, or Hatem spire	128·22
Station on high mound at Kantaret el Resaseh	132·7
Tel Benat, a similar tumulus to this near Dur	141·20
El Kaim tower	335·45
Angle of elevation of the Malwiyeh	0·35
Angle of depression of ditto	0·9
Magnetic needle, on its arc	200·30

From the Malwiyeh the angles were as follow; the theodolite being set 360° to the small turret over the doorway of the Khan Dholöiyeh, which was plainly discernible, though at a distance of twenty miles, and the clear atmosphere of this afternoon admitted of the flags displayed by the Nitocris, at twenty-one geographical miles distant, being plainly distinguished :—

Khan Mizrakji doorway	12°24′
El Kaim tower	45·35
Tomb of Imam Hassan Askeri in Samarrah	95·16
Ditto ditto ditto depression	00·54
Askik palace, north-west and south-east corners	180·31
Khalifa, or palace of Matassem	221·39
Tomb of Imam Dur at Dur	223·27
Kantaret el Resaseh	219·51
Tel Benat	226·23
Abu Delif, or Hatem spire	218·10
Tel Alij	259·36
⊙ altitude lower limb for azimuth	22·27
⊙ near limb ditto ditto	141·38
Magnetic needle, by its arc	122·30
Flags of the Nitocris near Dholöiyeh	3·38
Tomb and trees of Syed Mahomed	9·57

By noon on April 4th we had completed the survey of the royal conduit and again reached the point of junction of the two great branches, as well as that of the Batt canal, the position accorded by modern geographers to the site of the ancient Opis. For reasons, however, that have been fully given when considering the point of confluence of the Atheim river with the *former* course of the Tigris,* we must no longer perpetuate this error, though at the same time we are not able to identify the ruins satisfactorily with any other position, unless they represent those of Itakhiyeh, mentioned in the catalogue of towns quoted in the preliminary remarks.† In that case the bridge whose piers still re-

* Pages 116 and 117. † Page 37.

Rough Sketch
shewing
the Ground Plan of the Ruins at the junction of the Streams comprised in the ancient canal called the

KATUL EL KESRAWI.

Scale 50 feet to half an inch.

A Massive ancient dam called the El Sidd
B Position of another dam, now excavated for the sake of the materials
C Piers of a well constructed bridge in the dry bed of the old conduit, now erroneously termed El Kattar. The locality is identified wrongly, I believe, as the site of the ancient Opis.

(Signed) F. Jones
Delt.

main in the bed of the canal at the point where the Batt joined it, will be the Kantaret el Kesrawiyeh, or the "Cæsar's bridge" of the Arabic MSS. The ruins are certainly extensive and spread over the banks of the three centring streams, and, indeed, in the angle formed between the superior branch and the one coming from El Kaim, they occupy the entire space, and a deep winding bed shows that a portion of the water was led through the centre of this part of the town. Both arms of the canal had massive dams built across them, about a quarter of a mile above the spot where they unite, the one in the El Kaim arm having been destroyed for building the modern Khan Dholöiyeh contiguous to it; but the other still remains, a massive and compact structure, built of the largest kiln-dried bricks that I have ever seen in use in the old buildings of this country. They are square, of a diameter of 16 inches and 4½ inches thick; the length of this dam is at present 90 feet with a breadth of 22 feet, sloping from north to south at an angle of 15 degrees, in the direction of the current as it then ran. Its height is 3 feet 6 inches only above the present bed of the river, and on its surface is seen the usual concrete, to prevent abrasion of the material by the action of the current. This concrete is 16 inches thick, and of a very superior make. The dams would appear to have been erected here to break the force of the stream, and thus protect the bridge which spanned the canal about three quarters of a mile below. The remnants of the piers show that this was an equally solid structure, and a high tumulus, named Tel Mahassil, similar in all respects to that at the Kantaret el Resaseh, rears itself high above the west bank of the canal, and was, perhaps, intended as a landmark to guide caravans to the place of crossing, or, as its present name implies, it may cover the ruins of some elevated building that was in use as a custom or toll-house. Opposite to this, and immediately below the position of the bridge, is seen the mouth of the Batt canal, and this stream appears also to have had a strong bridge thrown over it, from the remnants of arches that are traceable in the mounds that form its present banks, and which cover the most part of the adjoining ruins. Large masses of brick work, vitrified by the agency of a strong heat, forming a compact mass, have been employed in the construction of the abutments of the bridge and in other buildings. On the whole the locality is one of interest, and the town, by whatever name it was anciently known, must have ranked as the principal one in this part of the Nahrwan or Katul el Kesrawi. There is nothing, however, to warrant its being considered as the ancient Opis, even did the site correspond with its geographical position; for the aspect of that venerable city, if its mounds are still in existence, must be widely different from the comparatively recent character of the ruined tenements before us. These exhibit only heaps upon heaps of loose bricks,

intermingled with glass, corroded copper coins, and the usual pottery observable on other Sassanian sites, while Opis, if its vestiges remain at all, I should think, would be found buried under some of the immense mounds of earth that are occasionally seen, and undoubtedly mark the more antiquated settlements.

Singular enough the present ruins have no modern fixed appellation; at times they are called El Sidd, from the dam, and at others El Kabbur, from the natives mistaking the ancient piers in the bed of the canal for the tombs of the race that dwelt here. I have despaired, from the same causes, of being able to restore the lost nomenclature of any of the towns on the whole line of the great work, for, with the exception of Bakuba and Aberta, intermediate history and local tradition have failed in perpetuating it. The Arabs, indeed, as if born to render destruction the more complete, have a peculiar desire to institute new and frivolous names, founded on accidental circumstances, or, at times, even on individual caprice. This whim extends to men as well as places, and the old appellations are thus succeeded by new with every generation. Individuals, indeed, are scarcely known by their patronymics, but are called by a nicname founded on a peculiarity of dress or trade, or by some personal defect or deformity. Europeans are subject to the same code. The wearer of a hat is immediately denominated Abu Jidr, "the father of the pot," from its resemblance to that utensil. Should an unfortunate wight think the "horse-collared appendage," termed a swallow-tailed coat, best adapted to his person, the term Abu Deyl, "the father of the tail," becomes his future cognomen, though the ridiculed article be discarded from the moment it attracted attention. The peculiarity is well instanced in the case of the late Sir Harford Jones, for, when he was the British Resident in this country, he was known only among the Arabs as Abu Jilud, "father of the skins," from his constantly wearing on his nether man the present costume of the hunting-field and race-course. The foaling of a favourite mare, the birth of a first-born, or the death of an old hag of the tribe on any remarkable mound, is sufficient cause, indeed, for the obliteration of the old name by the adoption of a new one commemorative of the event; and, as at Kabr Harbi, "the grave of Harbi," the burial of a wretched camel driver on the spot but twenty years ago has destroyed the ancient title of a fine old canal, for at the present time it is known by no other appellation. A first-born, styled Kassim, will in the same way convert the paternal name, whatever it may be, into Abu Kassim, "the father of Kassim," which becomes the subsequent title of the parent; and, *vice versâ*, according to the caprice of the party addressing him, the same Kassim will lose his personal identity in the eyes of a stranger by being hailed as Ibn

Abdullah, "the son of Abdullah," although in the stranger's presence he had been addressed by other bystanders, a few minutes before, by his proper *sobriquet* of Kassim. It is this peculiarity, I consider, that has rendered comparative geography so difficult in this part of the east, making the overthrow, indeed, complete, and aptly verifying the words of the Psalmist:—"Oh ye enemy! Destructions are come to a perpetual end, even as the cities which thou hast destroyed, their memorial is perished with them." (Psalm ix. 6.)

The Journal here closes, after having attained an interminable length, which I had not intended at its commencement. Geographical detail of a Desert tract is, at all times, however, a dry subject, and without some incidents of travel, or attempt at describing the manners and habits of the people one is associated with, is of very little interest to others not engaged in the great work of discovery. This attempt to relieve its general tediousness must be my apology, and I now quit the subject for the present, fondly hoping that, in the revolution of time on its orbit, a new dawn may soon break over the darkened land. Of its early progress we have but glimpses, but they are radiant with historical beauty; while its meridian career, though mellowed and shaded by circumstances and events, was not less prosperous and bright. The prospect, however, soon became eclipsed, and its glory set in darkness and obscurity. The pall of night still hangs over the classic territory, but recent events that have occurred in the Pachalic and caused the removal of the former Pacha, bid fair, however, to regenerate the land if the contemplated improvements be carried into execution. Turkish projects and Turkish energy go not, however, hand in hand. The re-opening of the Nahrwan is under consideration, and feasible enough to a Government whose financial affairs are less embarrassed than the Turkish; but with an empty treasury, an impoverished population, a dissatisfied soldiery, and rebellious tribes in every direction around, I cannot see how such a desirable measure is to be put into operation. Security of property, the stimulus to agriculture and commerce, is deplorably absent; and scarcity of food, with its concomitant evils, squalour and disease, are diminishing the already scanty race which, in comparison with the extent of territory, is a hundredfold deficient. Confidence in protection and an increased plenteousness will alone promote a healthy reaction and enlarge its population, to which end the energies of a new ruler should be entirely devoted, else no great public work, such as is under consideration, can be attempted. The great bane to the public weal, I mean the Arab, should be driven to his Deserts, or thoroughly subjugated, as a first step. This would require severe measures and a determined firmness of purpose, before it could be completely effected, and, under the moral and physical

constitution of modern Turkey, must be despaired of for the present. The condition of the province might, however, be ameliorated by tangible improvements, such as the introduction of small irrigating steam engines to supersede the "ropeyarn over a nail" system, at present in vogue, which is so inefficient and expensive. Even one of these machines erected on the banks of the Tigris would display its advantages to the minds of the natives of the country by its practical and not apparent utility. Like all small capitalists, however, they are fearful of entering into vague and prospective speculations, and, considering they are ignorant of these useful engines, we can scarcely blame the caution they exhibit. Let the advantages be once witnessed and thus made real to their senses, the example, I am certain, would be speedily followed, and the waters of the Tigris and Diyaleh, instead of flowing uselessly into the sea, would be in time again dispersed over the rich but thirsty soil, which wants but the element to make a return, as of yore, of two hundred and fifty fold to the agriculturist.* The day is not far distant, indeed, in which I expect to see European capitalists and emigrants turning their attention to these rich plains, so as to fertilise them by the aid of machinery. By the purchase of an estate in the secure district contiguous to the capital and the outlay of a moderate sum, success would be sure, particularly if the principal devoted his time to an active superintendence. The breed of cattle, too, might be improved; and, in addition to grain of every variety, indigo, sugar, hemp, and opium are capable of being reared. These considerations come not strictly within the province of the geographer. In alluding to them, I have nothing but the welfare of the enterprising at heart, coupled with a desire to witness the improvement of a country that has suffered so much neglect, while possessing *per se* natural advantages which no other country in the world, I believe, can boast.

(Signed) FELIX JONES,
Commander, Indian Navy.

Baghdad, 20th September 1849.

* Herodotus, in Clio, art. cxciii. The fecundity of the soil is, indeed, proverbial, and by no means exaggerated by the "father of history" in prolific years; and this, too, with the smallest amount of labour.

NARRATIVE OF A JOURNEY

TO THE

FRONTIER OF TURKEY AND PERSIA,

THROUGH A PART OF KURDISTAN;

UNDERTAKEN BY

COMMANDER JAMES FELIX JONES, I. N.,

COMMANDING THE H. E. I. C. STEAMER "NITOCRIS,"

IN COMPANY WITH

MAJOR (NOW LIEUT. COL. SIR) HENRY CRESWICKE RAWLINSON, K.C.B.,

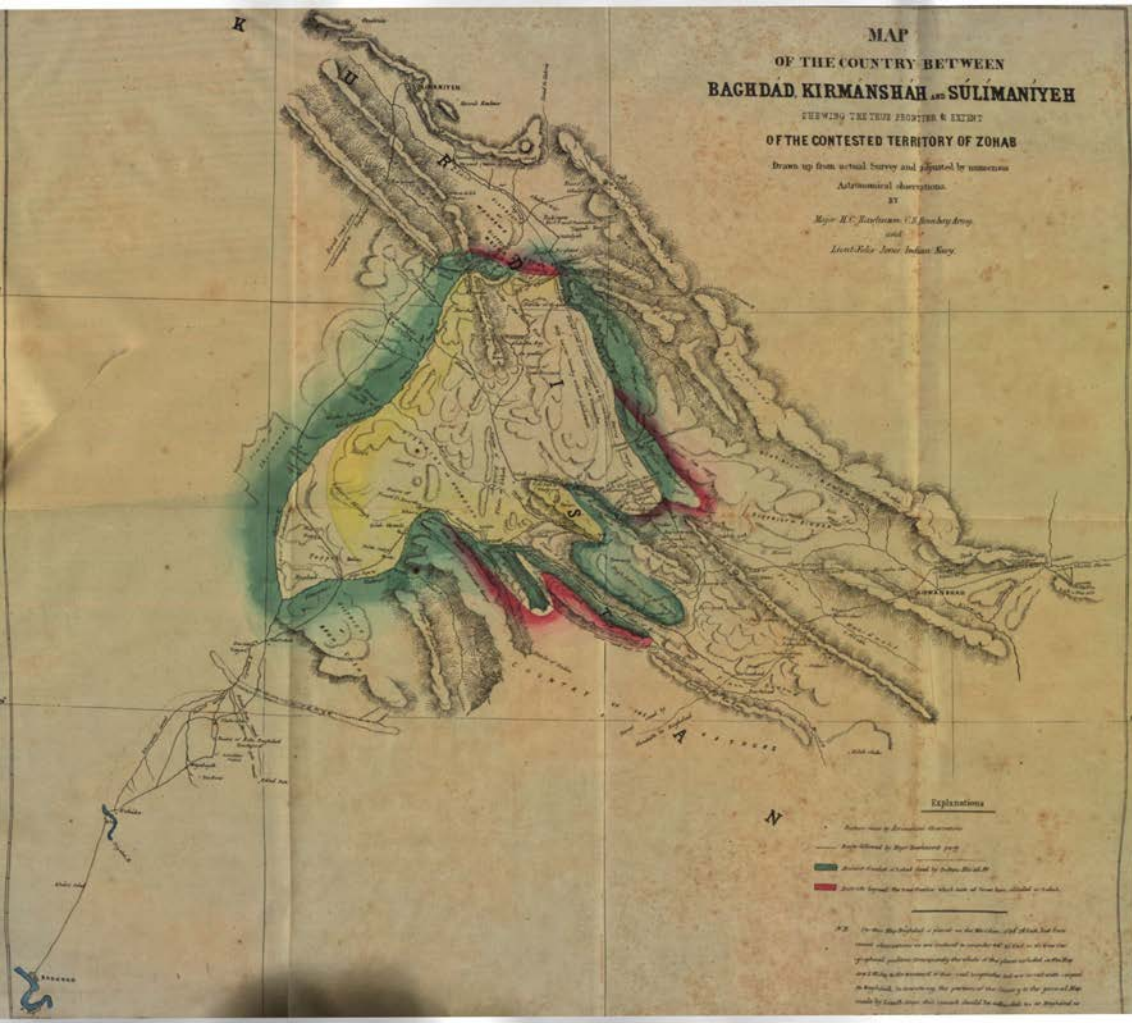
LATE POLITICAL AGENT IN TURKISH ARABIA.

Submitted to Government on the 16*th August* 1848.

JOURNEY THROUGH PARTS OF PERSIA AND KURDISTAN.

PREFATORY REMARKS.

The accumulating disputes between Persia and Turkey in 1843 threatened to involve those empires in a destructive war, that would ill accord with the interests of European States. The frontier had already become the scene of strife, on which acts both of aggression and retaliation were of daily occurrence. In this menacing attitude, the offer of a friendly mediation by Russia and England was accepted, and the Ministers of the contending parties prepared accordingly to submit the long-pending disputes to the arbitration of these great powers, who had invested with full authority a Commission for the purpose. Erzroum was determined on as the most convenient spot for the prosecution of its labours, and archives, records, and former treaties were soon collected to aid in the complicated task. So vague and conflicting, however, was the evidence before the Commission, that it was deemed advisable to procure oral and more direct testimony from the chiefs of some of the tribes located on the debateable grounds; and Colonel Taylor, then Resident at Baghdad, was written to on the subject. It was supposed that Thamar, a deposed Sheikh of the Cha'ab Arabs, would not only possess documents likely to be of service in settling that portion of the frontier which included the port of Mahomerah on the Haffar, but be well acquainted also with the geographical details of the country, and intimate with local traditions, which often prove of great value in territorial research. This individual, deposed from the Sheikhship, and deprived of his possessions by the Persian Ministers, was then a prisoner of the Turkish Government, and residing under its protection, at Basra, since his expulsion from the Cha'ab territory. I was despatched in the vessel I commanded to bring the ex-chief from Basra to Baghdad, in prosecution of his journey to Erzroum; and in 1844 Colonel Taylor's successor at Baghdad (Major Rawlinson, C. B.) determined on proceed-


MAP
OF THE COUNTRY BETWEEN
BAGHDAD, KIRMANSHAH AND SULIMANIYEH
SHEWING THE TRUE FRONTIER & EXTENT
OF THE CONTESTED TERRITORY OF ZOHAB
Drawn up from actual Survey and plotted by numerous
Astronomical observations.
BY
Major H.C. Rawlinson, C.B. Bombay Army.
and
Lieut. Felix Jones Indian Navy.
Explanations
N

ing personally to Zohab, another portion of the disputed territory, not only to collect information, but to procure an interview with the Amir of Kirmanshah, and thereby carry out the arrangements he had made with the local authority at Baghdad, for the preservation of peace in their respective Governments, as well as to prevent any collision among the tribes on the frontier, which might endanger the success of the Commission at Erzroum, or, at all events, protract its labours to an indefinite period.

Major Rawlinson contemplated proceeding on this duty in the summer of 1844, and as during that time (unless emergent service required her employment) the steam vessel which I had the honour to command underwent the necessary annual refit, I determined on complying with a requisition received from the Political Agent to accompany him on the journey. As this request was made solely with a view to the acquirement of a better geographical knowledge of this little-frequented but highly interesting portion of Kurdistan (which is deplorably incorrect on our present maps), it was willingly acceded to, particularly as Major Rawlinson's political labours would not allow him sufficient time to enter fully also into the duties of the surveyor. The journey occupied nearly two months, during which time many interesting sites were visited, and their true positions astronomically obtained. On our return, a map constructed from the results of the observations, was executed by Major Rawlinson and myself, and forwarded by that officer to H. M.'s Ambassador at Constantinople, expressly to assist the Commissioners at Erzroum in their inquiry; and the following pages, the simple record of our daily progress, although uninteresting in themselves, I trust may prove of some value to the geographer, from the many bearings and astronomical observations interspersed throughout them.

Notes made on a Journey to the Frontier of Turkey and Persia, through a part of Kurdistan.

August 19th, 1844.—We commence our journey from Baghdad with the thermometer at 109°, on a very oppressive day, and quit the city by the Mo'adhem gate at 5.43 P. M., accompanied by our friends, who, however, soon left us. The party consists of Major Rawlinson, the Political Agent, Mr. H., a British merchant, and myself; with a retinue amounting to some twenty in all, and a body of mounted troopers sent by the Pacha, not only as a guard of honour, but for protection against the Arab parties, which advance at this time nearly to the walls of the city in scarch of plunder. At 6.13, before night setting in, observed

the following bearings:—Road back, 211°; minarets of Kathemein, 255°. After a halt of ten minutes we resumed our journey, travelling in a general direction of 13°. At 8.28, called another halt, to collect the party; and at 8.37 went on in a direction of 20°. Arrived at Khani-beni-sa'ad* at 10.18, somewhat fatigued, having passed over a level desert covered with mounds of ancient ruins, and intersected with the broken banks of canals since 8.37. Spread our carpets on the ground, with a clear blue sky the only canopy, and enjoyed a refreshing night's rest.

August 22nd.—Mounted at 2.50 A. M. to avoid the heat of the day. How deliciously pure is the atmosphere of this morning in the open Desert, compared to the confined air met with within the walls of Baghdad! There is a beauty in the stillness, and it is a luxury to breathe. We held on a course of 20° to 5.25, when it was sufficiently light to obtain bearings in the bed of the Katul† canal, as follows:—direction of

* A few wells in the vicinity of this Khan afford for the cattle only a supply of brackish water. It is therefore necessary for the traveller, should he intend stopping at this stage, to provide himself with a supply from Baghdad, particularly during the hot season. Fresh water is, however, sometimes kept for sale at the Khan, brought in skins from the Diyaleh.

† The Katul canal, as it is here termed, ran parallel with, and is equal in size to, the Nahrwan itself. It can be traced to some distance above the village of Sindiyeh, and is supposed to have been dug subsequent to the decay of the latter. This decay was probably caused by the Tigris leaving its old bed and taking a sweep further to the eastward, when it separated the Nahrwan from its sources at Al Kaim and Kantaret-al-Rasasa. This Katul, indeed, appears to have extended from a little north of Sindiyeh only, to the "band" in the bed of the Diyaleh, as no traces of a sister canal to the Nahrwan are met with to the south of that river.

Though the name Katul is used only when speaking of the western canal in this position, it applies also to the branches in the neighbourhood of Samarrah, at Al Kaim, and Kantaret-al-Rasasa; indeed, Nahrwan and Katul are synonymous appellations to the north of the Diyaleh. Major Rawlinson, in his memoir on the site of the Atropatenian Ecbatana, has ingeniously shown that the Katul, or the Katur (as it is often called), is identical with the Torna of Theophanes, and the Tornadatus of Pliny; the first syllable Kan signifying in Persian "an excavation," and the modern town of Dar, situate close on the north bank of the canal, supplying, in its ancient appellative of Tur, the connecting link of the name. In its other appellation of Nahrwan we recognize the Nazzar of the campaigns of the Emperor Heraclius. See the work alluded to in the Royal Geographical Journal, vol. x. part 1.

I cannot, however, think that Nahrwan was only applied to the course of the canal south of the Diyaleh, for in the present day the northern parts of the canal are more frequently termed Nahrwan than Katul. Nor do I conceive that the waters of the Diyaleh alone were capable of supplying so extensive a canal; and, notwithstanding the distinct evidence of Yakut, am inclined to believe they are one and the same canal, in which the waters of the Atheim and the Diyaleh were at that time absorbed. At the same time, however, we may infer that Katul or Katur is the more ancient name, and that Nahrwan superseded it generally only in the neighbourhood of Ctesiphon, the capital of Amishirevan, who, according to Yakut, both repaired and augmented it. Other names have been also applied to this gigantic canal, which strictly belong only to new ducts that were constructed on the decay of the old, for instance, Al Dojm and Sid't Azez, and Major Rawlinson states it as bearing that of Nahrsusah also.

For the etymology of Nahrwan we have Nahr, the Arabic equivalent of canal, and Wan, the

the canal crossing the road, 342°; village of Hup-hup, 310°; Bahriz village, 102°. Proceeded, after a halt of ten minutes, in the same direction as before until 6 A. M., when we halted for another ten minutes in the bed of the great Nahrwan canal, and observed as follows: course of the Nahrwan, 351° 30'; Ziaret and tree in the distance, 228°. The river Diyaleh now breaks in on the canal a quarter of a mile below this. Went on to the ferry of Haweidha, which we reached at 6.45, passing Khani Syed about half a mile on our right. The Diyaleh is now very low, with high steep banks. It is fordable for horses about one hundred yards above this and two miles below. This year the ferry is jointly farmed from Government by Futteh Agha and Khalil Agha. The former is the present Tufungehi Bashi of Bagdad. It is, however, stated to be a bad speculation, from the paucity of Persian pilgrims crossing since the recent occupation of Kerbela by the Turks. From the ferry to Bakuba* is half a mile. This village boasts of some good gardens, and a few wretched houses embosomed in a date-grove, watered by a cut from the Khorasan or Jelluleh canal. This canal, after passing Abu Khamis, is lost in the Desert, about five hours south of this spot. Here we remained during the heat of the day, which was excessive—thermometer 110° in the shade in the afternoon. The observing the sun in the artificial horizon for latitude and longitude was absolute torture. As evening drew nigh, however, it became comparatively cool and pleasant. At 6.15 P. M. we resumed our journey, keeping more to the north-eastward in a general direction of 44°. Passed a cut from the Khorasan at 6.45, and another at 7.10. At this time the road led us more to the eastward for forty-five minutes, then diverged in a direction of 11°, when we crossed another cut from the Khorasan, leading to

name of a town that formerly stood on its banks,—or, probably, Wan is a contraction of the name of the monarch to whom Yakut ascribes its restoration.

If the canal were in existence at the time of the retreat of the 10,000 Greeks, then it would represent the Physcus of Xenophon; and the site of Opis, as Major Rawlinson observes, would be marked by the ruins near Eski Baghdad. This is, however, a very doubtful question. I am inclined to view the canal as a work of a subsequent age, and think that the ruins of Opis must be sought for in some extensive vestiges near the junction of the Atheim (the more probable Physcus) and the old bed of the Tigris, now termed Sh'taitha. Some very high mounds, noticed by Dr. Ross, on his journey to Al Hadhr, in the vicinity of Waneh, will, in all probability, be found to correspond with the situation of the lost city. This is, however, merely conjectural; for although we have a clue to comparatively modern towns when compared with Opis, we are yet unable to arrive at their positive identity. Even the Syro-Persian city erected by Khusru Amishirwan, at one day's march from his capital at Ctesiphon, and which boasted of a stately circus, baths, and magnificent abodes for the convenience and amusement of his Syrian captives, cannot at the present time be recognized, although it was built to perpetuate the joint names of the monarch and his recent conquest of Antioch, the then capital of Syria.—See *Gibbon's Decline and Fall of the Roman Empire*, chap. xlii.

* Bakuba, by double altitudes of the ⊙, is in latitude 32° 45' 10" N., and 13' 52" E. of Baghdad.

Karastel: here we remained to water the cattle, and to allow the party to close. The night was cool, with a brilliant moon. Started again in a direction of N. 22° E. till 10.55, when we encamped for the night.

August 23rd.—Left our ground at 3.50 A. M., continuing on the same line as the previous evening. At 4.35 crossed the dry bed of a canal, and at 5.7 halted for twenty minutes to observe the following bearings: direction of the road, 42°; Dakka village on the Mahrut canal, distant three miles, 20½°; brow of Dalahu, the culminating point of the Zagros range, 60¾°, distant about ninety miles; centre of the Band-i-Noah mountains, 76°; Minaret of Shehraban, 76½°; Dastagerd,* or Eski Baghdad, distant four miles, 115°; Zindan, or Palace of Bebdarakh, five miles distant, 135°; tomb of Benat-al-Husseyn, one and a quarter mile distant, 237½°; sun's centre at rising, for variation of the compass, 79° 20′. Re-mounting at 5.28 A. M., we crossed the Mahrut canal by a brick bridge of one arch; and then altering our route to 81°, reached the village of Shehraban at 6.45. Took up our quarters in the best house the place afforded, but a miserable hovel. The day, too, was excessively hot, and the myriads of flies that swarmed around prevented us enjoying the rest we so much needed. We however obtained the usual observations. The Shehraban canal bisects the village, and is lost a little to the south of it. It formerly watered Eski Baghdad, and, I believe, supplied the Zindan† also, but we are informed here that a cut from the Mahrut passed the latter. Shehraban‡ is supposed to occupy the site of

* The identification of Dastagerd with the present ruins termed Eski Baghdad is fully ascertained from numerous oriental authors. See Major Rawlinson's Memoir in vol. x. of Royal Geographical Journal. It was a royal seat in the time of the ill-fated Khusru Parviz, and was celebrated for its wealth and magnificence. On the success of Heraclius, it was desolated by the Roman troops. Three hundred standards taken from the towns and armies of the Western Empire, and a numerous multitude of Christian captives, which had graced the triumphs of Khusru's arms in Syria, were restored to liberty. Khusru himself, contrary to expectation, escaped through a hole in the wall of his palace, and sought safety in an ignominious flight, nine days prior to the arrival of the Roman army from Theophanes.—See *Gibbon's Decline and Fall*, chap. xlvi. p. 517.

† Position which the Roman army under the Emperor Heraclius occupied after the defeat and flight of Khusru Parviz from Dastagerd. See note in Gour's Theophanes, quoted in Major Rawlinson's Memoir on the Atropatenian Ecbatana, p. 95.

‡ The name Ταμερδ, employed in the MSS. of Theophanes, and which in the Memoir above alluded to is recognized by Major Rawlinson as equivalent to the Oriental Tamerreh or Tamerret, I conceive is nothing more than a Greek contraction of the name of the district, and not applicable to any particular town. Ταμερδ, in all probability, is a compound of the Arabic تمر Ταμτ, "date," and يا ض Ερδ, "land" or "province," and may well have been applied to this locality, from the fact that in coming from either Europe or the NE. parts of Persia, the date-groves are here first met with in a flourishing condition. The name, indeed, may have been written thus in the Greek MS. of Theophanes, in the same way as we have Ναρβαν for Nahrwan. Shehraban, in its miserable village and stunted date-grove, reflects sadly on the present

the ancient Apollonya. Many mounds covered with broken pottery, and the remains of numerous canals crossing each other in fantastic lines, mark it as the former abode of a numerous and industrious population. The now barren and densely heated plain, highly cultivated as it no doubt was, afforded in bygone times some pleasant retreats, under the shelter of its groves, from the scorching heats of summer, which we, alas! feel and must bear, without a hope of relief. The date-tree, so luxuriant and fruitful in the neighbourhood of Baghdad, is here a stunted and a forlorn object. A headless minaret stands in the centre of the village, a fit emblem of its fallen condition. At 6.25, the declining rays of the sun induced us to quit our miserable abode for the saddle. Our course now lay in a direction of 58°, over and through some extensive mounds of ruin, probably the remains of the ancient Hilta, until 7.5, when we diverged to 64°, a table-flat on the Hamrin range, then bearing 33°. Continued on this course to 7.37, when we crossed the Haruniyeh,* and shortly after the Belad Ruz,† canals; the latter by a fine brick bridge recently built at the expense of an opulent merchant of Baghdad for the convenience of pilgrims visiting the holy cities of Najuf and Kerbela, and, like most other works in this country, was erected from pious and charitable motives. The Belad Ruz canal is the most northerly and easterly of all the cuts from the left bank of the Diyaleh south of the Hamrin, and being the nearest to the base of the range, has consequently the deepest bed, with high steep banks. It waters the country as far south as Mendalli, and, I believe, formerly extended far below it. Between the Belad Ruz and the last station noted, the country became more undulating, and the road proportionably tortuous, winding from NE. to SE.

It became necessary to collect the party after crossing the Belad Ruz, and before entering the defiles of the Hamrin,‡ which are notorious for harbouring parties that may be out in search of plunder. We halted therefore until 8.30, and sufficient time and opportunity were afforded to the Rustams of the party to alarm the nervous by horrible and incredible

condition of this once fruitful province. By double altitudes of the ☉ its position was ascertained to be in latitude 34° 00′ 9″ north, and by meridian altitude 33° 58′ 45″ N. Its chronometrical difference from Baghdad is 31′ 18″ east.

* Named after the Khalif Harun-al-Rashid, who is said to have first excavated it.

† Bara Soth of Theophanes, and the Baraz-rud of Yakut. See Major Rawlinson's Memoir on the Atropatenian Ecbatana, p. 95.

‡ An undulating barren ridge of tertiary formation, from 300 to 500 feet of elevation, extending in a direction from SE. to NW., across the level plains of Assyria. The ridge appears to be a spur thrown off from the skirts of the Zagros chain in the neighbourhood of Mendalli, and can be traced, in almost a direct line, to within a short distance of the ancient city of Al Hadhr in Mesopotamia. It is severed by the Tigris, by the Atheim, and by the Diyaleh. That portion of the range west of the Tigris bears the name of Jebal Mak'hul, and is considerably more elevated than the parts to the south-eastward.

tales of robbery and murder. We entered the much-dreaded gorge at 9,* and continued winding slowly, and with proper caution, through its hillocks and defiles until 10.30, when we encamped on the plain beyond. The silence that had pervaded the party in the dreaded gorge now gave place to boisterous tales of individual prowess in former rencontres with the banditti of the Desert; and it was amusing to witness the bold front of one or two of the party, whose countenances but half an hour previous wore an aspect as pale as the chaste luminary that was shining above them, and who would have fled at the first alarm.

August 24th.—After a cool and refreshing night mounted at 4.30 A. M., and stopped at a dry cut from the Diyaleh at 5.20, for the following bearings:—Direction of the road onwards, 22°; isolated tumulus† on the right bank of the Diyaleh, 327°; village of Kiz'lrobat,

* The river Diyaleh breaks through the ridge about one and a half mile NW. by W. of this position, in a full and impetuous stream. To this spot we must attach Herodotus's tale of the labours of the great Cyrus, who spent nearly a whole year in diverting the river from its original bed into 360 channels, because his favourite horse was drowned in attempting to cross it. No other river will so well accord with the description of Herodotus on the ancient Gyndes, and the remains of a dam across the stream, constructed in a remote age, may continue a monument of the wrath and perseverance of that monarch. The Khalis, the Belad-ruz, the Mahrut, the Haruniyeh, and numerous other canals, again branching out into smaller ducts, have their origin at and a little below the dam. In the present day even, their number may amount to that described by the historian.

Rennell, in his Geography of Herodotus, vol. ii. sec. xiii. p. 431, identifies the modern Diyaleh with the Gyndes of antiquity; but the testimony of Major Rawlinson, who has travelled through most of the countries coursed by its waters, is almost conclusive evidence of their being one and the same river, and yet our maps still continue disfigured by a Gyndes falling into the Tigris between the Diyaleh and the Kerkha river, whereas, from my own experience, I confidently affirm that with the exception of the Um'l Khanzir, the Nahri Sa'ad (insignificant torrents reaching to the Tigris during the winter months only), and some outlets from the great lake of Haweza, no river is to be met with in the intervening space falling into the Tigris from sources in the mountains of Persia. The Hud, a branch of the Tigris connected with the lake of Haweza, has, however, been known, from sudden rises of the Kerkha river occurring while the Tigris is in a very low state, *at times* to fall into the parent stream, and may have given rise to the supposition that the Hud had sources *per se*, instead of being derived from the Tigris.

† These tumuli, so often met with in Asia Minor, Syria, Kurdistan, and Persia, are singular and interesting relics of a former age. Some have been fortified, and exhibit at the present time massive ruins on their summits. Others have been erected over distinguished individuals, who may have died, or have fallen in the numerous conflicts that these localities have witnessed, and the sepulchral urns so often found entombed in these piles give evidence of the fact. The most ancient notice, I believe, that we possess regarding these singular structures, is found in Diod. Sic. chap. i. book ii. p. 111. He ascribes their origin to Semiramis, and the custom was doubtless followed by subsequent nations, until interment superseded the pyreal form of disposing of the dead. Diodorus, in speaking of the customs of Semiramis, remarks: "In champaign countries, she would raise eminences, on which she would sometimes build sepulchres for her officers and commanders, and at other times towns and cities. Through her whole expeditions she always used to raise an ascent, upon which she pitched her own pavilion,

20°; peak of Baziyan, 22°; bluff end of Bamu, 41½°; brow of Dalahu, 63°; sun at rising, for variation, 79¼°; centre of Band-i-Noah, 81° 30′; distant peak to the south-eastward, supposed to be Manisht, 119° 30′. Proceeded onwards at 5.33, passing over cultivated grounds watered by the small canal Merjaniyeh, a cut from the Diyaleh. At 6.30 reached Kiz'l-robat,* a small village farmed this year by our friend Kader Pacha, who received us very kindly, and entertained us with true Kurdish hospitality. Though we required rest after night travelling, we were as usual doomed to disappointment, the excessive heat and annoying flies preventing the obtaining any: we however managed to drag through a long and weary day in conversation with our host, and in working out the observations taken on the journey. Most of the Kurds are inquisitive, but not impertinently so, and we derived some amusement in answering the numerous queries of our entertainer, who is a well-educated man, and conversant with most of the oriental authors. Of high birth and well connected, he was at one time selected to govern the Turco-Kurdish Pachalic of Sulimaniyeh, which gave him his present title of Pacha; but from some intrigue he never reached his court. Devotedly attached to hunting, he spends most of his time in some favoured retreat, or in superintending his farm. His appearance is as patriarchal as his habits are abstemious, and his manners mild and conciliating. No wonder, then, that he is beloved by his Ryots and followers. We had known Kader Pacha in Baghdad, and were delighted again to meet him on his ground, and share the hospitality which was warmly extended to us. After partaking of a farewell meal in his company, and discussing the policy of European States, which he is extremely fond of, we took a reluctant leave; the old man, with a falcon on his wrist, accompanying us some distance on the road, attended by a troop of armed retainers, and some goodly hounds,—either to enjoy the pastimes of the field, to make a foray,† or to repel attack, as chance or inclination may direct him.

that from thence she might have a view of her whole army. Many things which she performed in Asia remain to this day, and are called Semiramis's works."

I shall have occasion again to allude to these singular structures in other parts of the Journal, more particularly when journeying through the plain of Shahrizur; but I may here add, that on the plains of Waterloo, traces of these ancient usages, commemorative of that glorious event and of those who fell, may be witnessed at the present time, in the modern structures that have been raised since 1815.

* Kiz'l-robat, by double altitudes of the ⊙, is in latitude 34° 10′ 51″ N., by its mer. alt. 34° 10′ 59″ N., and 40′ 27″ east of Baghdad. The magnetic variation in 1844 was 3° 5′ west.

† In Herodotus and Xenophon, and indeed in most ancient as well as in comparatively modern writers, we are informed that the amusements of the chase were not incompatible with the toils of war. We learn from Heeren that monarchs as well as whole armies were devoted to the pursuit; and our inimitable Scott, in his Tales of the Scottish Border, has drawn a true picture of frontier life, as applicable to the barbarous Kurds of the present day

Mounting at 6.20, our course lay in a direction of 80°. At 6.40, the small canal Merjaniyeh was crossed. It leaves the Diyaleh about two miles below the junction of the A'bi Holwan and A'bi Shirwan. These two streams are the main branches of the Diyaleh river, which name appears to apply only to the trunk stream, as it is unknown beyond the frontier town of Khanakin. The A'bi Shirwan, coming from the mountains near Sinna, meets the A'bi Holwan about four miles north-eastward of Kiz'l-robat: at a short distance below their junction, the remains of a large ancient canal may be traced; and two conspicuous mounds of ruins (probably on the site of the ancient Jellaleh*) stand elevated considerably above the plain. Continuing the same direction as before, at 7 we ascended over another elevated ridge of sandstone and pebbles, similar to and running parallel with the Hamrin range. These ridges appear as stepping stones to the approach to the mountains, the alternate ridges being from eight to five miles apart, and the intervening space occupied by a fine plain susceptible of cultivation. After halting twenty-five minutes to collect the party, we proceeded in a direction from 56° to 22°, the road varying between these points (as we crossed the ridges alluded to) until 11.5, when we entered the alluvial valley of the Holwan. From this to Khanakin the course was 55°. At midnight we entered the town and crossed the Holwan by a splendid bridge of nine arches. This bridge has recently been repaired, and is the only modern structure that can claim the attention of the traveller in this country. The town, or rather village, of Haji-Kara† stands opposite Khanakin, on the Persian side of the stream. It has a fine Khan for the reception of goods and accommodation of the merchant or traveller. Khanakin and Haji-Kara are now the frontier towns lying on the main road between Turkey and Persia, though, strictly speaking, in accordance with the old treaties, the Pachalic of Zohab, as far as the old fort of Sarmil at the head of the Taki-Girrah pass, is undoubtedly Turkish soil. This portion of the country was lost to Turkey in 1821, by the invasion of the Persian troops under Mahomed Ali Mirza, then prince of Kirmanshah. This energetic prince had reached as far as this point on his advance against Baghdad when he was attacked with

as to the semi-civilized fraternity that infested the marshes between England and Scotland during the unsettled times prior to the reign of the first James.

* Jellaleh was a strong position in the time of the Sassanian kings of Persia. It was here that a part of the army which came to the relief of the unfortunate Yezdijerd, the last monarch of the house of Sassan, was captured after the decisive battle of Kadesiyeh, A. D. 636, by Hashem, nephew of Saad the Arabian general.—See *History of Yezdijerd* in the Ant. Hist. p. 120.

† The garden-house in the village of Haji-Kara stands in latitude 34° 20′ 47″ N. by double altitudes of the ☉; by its mer. alt. in 34° 20′ 37″ N. Longitudinal difference east of Baghdad, 53′ 10″; and the variation of the needle in 1844 was found to be 2° 10′ west.

cholera, and died in a few hours. The hopes and ambition of Persia died with him, and his army returned disheartened to Kirmanshah. The territory, however, which he then gained, has since been unwillingly recognized as Persian soil, from inability in the Turkish ruler of Baghdad to re-conquer it; and the surrounding tribes, taking advantage of this, in some measure, debateable soil, repair to the neighbourhood for the adjustment of their disputes either by negotiation or by the sword. The latter is, however, the most often resorted to, and this locality is, therefore, one of the most disturbed in either district. The disputes between tribe and tribe are not only adjusted here, but tribes in rebellion against either Government find it a convenient spot for the exercise of their lawless habits, as by crossing the barrier they effectually secure themselves from pursuit. This insecurity will at all times prevail, unless, indeed, the Turkish Governor of Baghdad and the Persian Amir of Kirmanshah mutually act for the coercion of the tribes and the repose of the frontier. But this is not the policy of either, as these aggressions not only tend to keep alive the national hatred and antipathy, but serve, in some measure, as a screen to the grasping power of the despots in either province, who fail not secretly to foment them.* Major Rawlinson's mission will, I fear, be a laborious one. Possessing the confidence of both parties, his abilities and knowledge of native character will fit him for the task, which, if prosperous, will prove of great benefit to the Commissioners at Erzroum: the habits, hatreds, prejudices, and conflicting testimonies, however, of the tribes and factions that he is endeavouring to reconcile, independent of their difference of faith, form a mass of incongruous material ill adapted to ensure the desired success. Both Khanakin and Haji-Kara form considerable *entrepôts* for trade, and many of the influential houses at Baghdad and Kirmanshah have their agents located here. With this object it is that Mr. H. has accompanied us on this journey: he is about to establish an agency for the collection of the produce of the Kurdish mountains, returning, in exchange, the manufactures of England. Gums, galls, and other drugs, abound in this vicinity, and I believe only want an enterprising individual and an honest agent—a *rara avis in his terris*—to make them a source of considerable profit.

August 25th.—Rose early, and retired to the shade of the garden as being preferable to the house during the heat of the day. Major Rawlinson received numerous visits from the principal people residing in the

* This district, as well as others bordering the mountain ranges of the Zagros, has in all ages been the scene of rapine, bloodshed, and strife. Both Arrian and Strabo repeatedly allude to these disturbed regions, and the lawless habits of the Cossei, who maintained then, as at present, an independence, notwithstanding their vicinity to the capital. Alexander the Great, who finally conquered them, experienced much difficulty in keeping them under his yoke.—See *Heeren*, vol. i. p. 245, from Arrian's History of Alexander.

town and its vicinity, who inform us that the roads between this and Kasri-Shirin are infested with plundering parties of the Jaf and Hamawand tribes, rendering it unsafe to proceed without an escort. This will delay us a little. The escort that accompanied us from Baghdad returns from this, their further service being useless beyond the Turkish frontier. A report reached us to-day that one of our Kassids had been robbed of his letters, and severely wounded, by a party of Jaf a few days back: I trust this may prove incorrect, as matters will be still more difficult to arrange. A little after sunset the expected escort arrived, having had a skirmish with a plundering party in the morning. A fine lad, nearly related to the chief of Kurrind, was severely wounded by a spear through his lungs. They confirm the report of the robbery of the Kassid, but deny that he was wounded as we heard this morning: on the contrary, they state that he was kindly received by the Jaf chiefs when carried before them, and that the robbers were punished with the loss of their ears. Which of these reports is the true one, yet remains doubtful. Entertained our new friends at dinner; the commandant of the party proving to be a former *protégé* of Major Rawlinson's when serving in Persia seven years ago. This worthy, a Guran of the Ali-Ilahi sect, appeared much pleased at meeting his old patron and *quondam* commander, and, delighting in the good cheer before him, recounted, with evident satisfaction, tales of former service, in which both had mutually shared. From the terrace of the house in which we lodged the following bearings were obtained:—⊙ at setting, for the variation of the needle, 285¾°; tomb of Imam Abbas, one and a quarter mile distant, 276°; a tumulus called Tappeh Koleh, where the canal exhausts itself in irrigation, 211°, distant four miles; an isolated peak* on this side of the Shirwan, 321½°; brow of Dalahu, 68¾°; point of Ban-Zerdah, 63¾°; centre of the Band-i-Noah, 95½°; Shahri-zur hill, 118°.

August 26th.—Left Haji-Kara, after a few hours' sleep, at 1.45 A. M., attended by our escort. Two Kafilahs, taking advantage of our strong party, accompany us. With a brilliant moon we threaded our way, over disordered heaps and ridges of sandstone and pebbles, in a general direction between NNE. and ENE. The latter course was most prevalent, and the road ascended considerably the whole way. At 4.45 passed an enclosure of rough stones, dignified with the name of Kaleh Sabzi. It is now unoccupied, having been built to keep in check the numerous marauding parties that frequent this locality. It has failed, however, in its object, for it is difficult to procure a garrison to remain, for a length of time, on so lonely a spot,—their own fears, coupled with the threats of the tribes around, being sufficient excuse for its abandonment. A similar enclosure in ruins, named Kaleh Shamili, alike

* Hill of Dakkeh.

deserted, borders the road twenty minutes further on. At 6.30, the Holwan river touches the road, and for a short distance winds along it. Its waters, unlike the Tigris, are dark and clear, and run with some rapidity over a hard pebbly bottom. In the spring and winter it must discharge a considerable body of water, but it is now comparatively shallow and about twenty yards broad. At 7 A. M. reached the Caravanserai at Kasri-Shirin,* a miserable halting-place, in whose blackened and smoke-begrimed vaults we are, however, glad to shelter ourselves from the fierce heat, although vermin and every other abomination surround us. We were compelled, from the excessive heat, to remain in the Khan during the day, which we devoted to the working out of our astronomical observations and in taking others for the determining of the position of this place. The thermometer was 98° in the coolest spot we could find, but when exposed to the hot wind that blew all day it rose to 115°. In the evening we visited the ruins in the vicinity of the Khan, about a quarter of a mile north of the Caravanserai. A quadrangular mound, evidently of great antiquity, exposing at its sides large blocks of well-cut masonry, first excited our attention. This mound is detached from the more extensive, but, in my opinion, the more modern remains to the NW., by either a fosse or a natural ravine. On the south of it is a miserable hamlet, inhabited by a few wretched Kurds, built on the *débris* of the former buildings, supported on solid arches, which are here and there exposed by the Holwan having encroached on the right bank. NNW. of the Kasr, or mound above mentioned, about half a mile distant, the remains of a square brick building are still standing, but roofless, having an arched doorway on each side. This I presume to have been a fire-temple, from the remains of one, in all respects similar, which I had seen near Humaniyeh† on the Tigris. A large oblong enclosure extends from this edifice, the area of which may be two miles. Its walls are from ten to fifteen feet high at present, very thick and solid, and composed of large unhewn boulders of a reddish-black stone, similar to basalt, imbedded in a coarse mortar of a very hard and durable nature. These walls present a singular appearance in their present state, but may have been coated with plaster when originally built. We had not time to examine thoroughly the whole of the interesting remains in this neighbourhood.

* Kasri-Shirin stands in latitude 34° 30′ 6″ N. by double altitudes of the ⊙; by meridian altitude 34° 30′ 27″ N. Its longitude east of Baghdad was made 1° 06′ 15″. Rich, however, places it eleven miles further to the east, but I think the former may be relied on. Rich's latitude of the same place is 34° 30′ 39″ north.—See his *Kurdistan and Nineveh*, vol. ii. p. 267.

† Kubeh't-el-Nar, about five miles west of the remains of a Saracenic city, built upon the site of a Babylonian town on the peninsula of Humaniyeh, close to the right bank of the Tigris. Its name implies "temple or apartment of fire."

Rich, however, who spent some days both here and at Haoush Kerek, a similar ruin, has entered more into detail. In our short survey we could trace no remains of buildings, excepting a quadrangle, which has been termed "the palace," within the enclosure, but were inclined to consider it as having been constructed as a receptacle for wild animals. The native tradition assigns its erection to Khusru Parviz,* who here is said to have enjoyed the amusement of the chase, and the society of the beautiful Shirin. To the east of the enclosure a substantial aqueduct conducted the waters of the Holwan from near their source to the royal park. It is not improbable, indeed, that the area of the enclosure then contained a profusion of luxuriant trees, similar to the venerated Shikargahs of the late Amirs of Sind on the banks of the Indus, requiring a lavish supply of water, not only for their own existence on so arid a soil as that in the vicinity of the Kasr, but to maintain alive the numerous animals that were imprisoned beneath their shade, and were destined for the sport of the royal hunter. The remains of this aqueduct, built on a wall of solid masonry, can now be traced for many miles, and the place, though not affording many objects of interest to the antiquary, yields some amusement to the traveller from the many stories of love and the chase connected with it, which have been founded on the romantic attachment that the Sassanian monarch entertained for his Christian queen, and on her partiality for the enamoured Firhad of Persian romance. A similar ruin, termed Haoush Kerek, is situate

* A note in Rich's Kurdistan and Nineveh, vol. ii. p. 264, on this subject, is worth transcribing:—

"Khusru Parviz, king of Persia, of the Sassanian dynasty, was the grandson of Chosroes Amishirwan. He married a daughter of the Emperor Mauricis, who is generally supposed to be the same person as the heroine of the eastern romances of Khusru and Shirin.

"This eastern heroine has likewise had the honour of being sung in German verse by M. Joseph von Hammer, in his poem of "Shireen"; and whoever may be desirous of knowing more of this lady, and of the poets who have treated of her history, will find ample details on the subject in a work just published by that distinguished and indefatigable orientalist, entitled 'The History of Ottoman Poetry.'

"The town, which is supposed to have been built by Khusru Parviz, in honour of Shirin, and to have been called after her, is described as situated between the towns of Holwan and Khanakin. He is reported to have said to Shirin, 'Royalty would be a glorious thing, if it endured for ever': to which she answered, 'If it had endured for ever, it would never have come to us.' Khusru Parviz is the Chosroes II. of the Greeks. By the Byzantine writers he is said to have married a daughter of the Emperor Mauricis named Irene, which the Persians afterwards converted into Shirin, 'sweet,' or agreeable. The Roman accounts, however, say that she was a public dancer. Khusru Parviz was killed by his son, A. D. 627.

"The monarchs of Medea and Persia appear to have partaken of the nomade habits of their subjects from a remote antiquity to the present time. Their annual migrations according to the seasons were conducted with a pomp and magnificence unknown in Europe; and their parks and pleasure-houses in all parts of the empire were on such a large scale, as not only to serve for the confinement of every species of game, but contained such a space within their walls as to admit of their armies being reviewed."—See *Heeren*, vol. i. chap. ii. p. 402.

about six and a half miles west of Kasri-Shirin. Mr. Rich has fully described it in his Kurdistan and Nineveh, vol. ii. p. 270.

August 27th.—In the saddle at 2.25 A. M., resuming our march in a very serpentine direction to the NE. At 3.30, touched upon the remains of the aqueduct leading to Kasri-Shirin. The duct or canal was about a foot broad: many of the stones that composed it are still scattered around. The wall that supported it is a massive structure, and is still in some places four or five feet above the level of the country.* Our course, after leaving the aqueduct, turned more to the SE., at no great distance from it, and led us again to the bank of the Holwan, at 3.45. From this time until 4.35, altering our direction over disordered heaps and barren mounds between E. and ESE., when we passed a Tappeh called by the Kurds Jellaleh,† and said to be half way between Kasri-Shirin and Sar-Pul. Many vestiges of former habitations are seen around us, on the crests and ridges which are thrown off from the north end of the Shanbalah‡ ranges. This we rounded at 6.30, emerging from the cinder-like detritus of the hills into the alluvial valley of the Holwan. Through the plain we pursued a general direction of 102°; crossing many branches of the Holwan that are here distributed over the plain for agricultural purposes, at 7.10 the wretched Caravanserai or Khan of Puli Zohab was reached. For the last hour we had been escorted by a large party of Jaf horsemen, under the chief of the tribe, Mahmud Beg.

The contrast between the Arab and the Kurd is, in appearance, in favour of the latter. Wearing a gayer and better style of dress,—the large turban surmounting, in most instances, fine and manly features,—with a profusion of arms and tinsel finery,—attached to their spirited, but ill-bred horses,—prepossess one in their favour at first sight; but for hardiness and endurance, either in the fight or in the chase, the small, ill-clad, but sinewy Arab stands as unrivalled in his own person,

* It was prolonged beyond Kasri-Shirin, as far as Haoush Kerek; at least, we are informed so.

† This may be the scene of the defeat of part of Yezdijerd's army, and not the position bearing nearly the same name, mentioned in page 144 of this Journal. I am inclined to view the former as the ruins of a much earlier town.

‡ Sambulos of Tacitus, and the reputed scene of the exploits of Hercules and his invincible band. Gotarzes, the Parthian monarch, was here employed in offering sacrifices when his kingdom was invaded by Meherdates. The name signifies an ear of wheat, and Major Rawlinson has ingeniously shown, in his notes on a March into Khuzistan, page 43, its connection with the earliest principles of religious adoration in the east. Doubtless many local deities were worshipped in the earlier ages on the banks of the Gilan river; and if in Shanbalah or Sanbalah, as signifying "an ear of wheat," and being the characteristic of fecundity, we can trace the cause of its dedication to Venus, and its representation on the coins of Nannaia, we may, I think, in the name of Mount Anarish, the western boundary of the Gilan river, equally trace the name of the goddess, as represented by Anaitis and the Persian Anahia, though the Major has not remarked it. It is, however, merely conjectural, and suggested entirely by a perusal of the clever notes, to which I have before alluded, in the Royal Geographical Journal.

as does the metal and temper of his pure steed excel that of all other eastern breeds.

Numerous visitors from the Jaf and Hamawand Kurds, who are in this neighbourhood, gave Major Rawlinson full occupation throughout the day. Being compelled to receive them all in a single room, the only tenable apartment the Khan afforded, rendered the place, from its crowded state, so insufferably hot, that obtaining the sleep that we much required after our night's journey was out of the question: complaints, grievances, threats, and persuasions, were poured forth in Turkish, Kurdish, and Persian by the chiefs and their numerous followers;—angry declamations, accompanied by hostile menaces, would, no doubt, have ended in open rupture between the parties, did not the presence of the Major restrain them. I had taken the usual daily observations for determining the position of the place, and endeavoured to work them out, but the Babel-like confusion within the solitary apartment ill accorded with the quiet so necessary to logarithmic calculation, so I resigned it in despair: indeed, I place but little confidence in the results eventually obtained from these observations,* as the influx of the multitude into the Khan caused the mercury of the artificial horizon to tremble in such a degree as to preclude almost an approach to correctness. As evening drew nigh our friends gradually left us, and we were enabled to leave the confined space we had all day occupied, with the thermometer at 105°, for the terrace of the Khan. A sumptuous meal, to which that luxury, ice, brought from the mountains above us, contributed not a little, soon dispelled the feverish languor which had crept over the party from fatigue and the deprivation of sleep. We were again in the saddle at 8 P. M.

The Khans of Sar-Puli Zohab, for there are two, stand in the valley of the Holwan, on the right bank of the river, at the foot of a spur projecting from the high range of the Band-i-Noah to the NW. They are surrounded by a few huts, and some reed villages of Bazilan Kurds occupy the neighbouring plain. In themselves they are altogether unworthy of notice, but the locality is one of great interest. The projecting spur above mentioned is called the Dukkani Daud Range, and is covered with figures and inscriptions of the Kaianian and Sassanian ages, The Holwan, flowing from its source in the defile of Rijab, tumbles with great violence through a gorge in the range close to the Khans; and on the left bank of the stream, opposite to them, the remains of the Calah of Asshur,† and the Halah of the Israelitish captivity, one of the

* By these results the bridge at Sar-Puli Zohab is in latitude 34° 26′ N., and east of Baghdad 1° 20′ 56″ N.

† See Major Rawlinson's Notes in the Royal Geographical Journal, on a March from Johab to Khuzistan. In a later era it was known to the Persians and Arabs by the name of Holwan,

eight primeval cities of the world, are still washed by its waters. Parts of the ancient buildings are seen in section, from the river having undermined their bases; and bricks, bearing the cuneiform inscriptions, similar to those of Babylon, abound in the vicinity. This city was coeval with Babylon, Nineveh, and Resen,* and is frequently mentioned by ancient and the more modern oriental authors. For its identity and discovery we are indebted to Major Rawlinson, who has, in his interesting March from Zohab to Khuzistan, given a very full and elaborate description of the various monuments of antiquity in this neighbourhood. With great regret we were compelled to leave these relics without examining them minutely, although portions of them can be seen indistinctly from the Khan; the great heat and our other occupations preventing an inspection of them until sunset, at which time a visit would have been useless, as, to be seen in perfection, requires the full blaze of the noonday sun.

Crossing the Holwan by the bridge near the Khan at 8.5 P. M., we passed through the gorge in the Dukkani Daud Range, in which the river flows, and kept a course between 110° and 146°, through the plain of Bishiweh. This plain occupies the space between the low spur denominated the Dukkani Daud to the west, and the heights of Zagros on the east. It is plentifully watered by mountain streams, and well cultivated. It terminates at the foot of the Taki Girrah ("gates of Zagros") pass, which we reached at 10.20, having passed an excavated sepulchre,† supposed to have once contained a sarcophagus in the Dukkani Daud Range, about two and a half miles SE. of Sari-Pul. The moon having not yet risen prevented a sight of this remarkable spot, but as we commenced the ascent of the far-famed pass, that luminary burst forth in all her splendour above the oak-crowned crests of the Zagros.

The ascent proved rather a laborious one, over a zigzag and very rough road, formed of loose masses of fallen rock, and large boulders of stone like gigantic pebbles. The elevation of the road may be about 20°; and, in its present state, is certainly ill adapted for the passage of either troops or artillery.

A little labour and expense would, however, place it in as efficient a state as it no doubt was in the remote ages when Cyrus, Darius

and Dr. Ross, who visited this part of the country in 1835, states it to be sometimes called Samangan and Hiliwan. As late as the Sassanian ages it continued a city of considerable importance. Yezdijerd, the last of that dynasty, fled to it on his defeat by Wakasibu Saad, and we may therefore date its decline from the invasion of the Arab hordes, A. D. 636, when Mahomedanism succeeded to the religion of Zoroaster.

* Genesis x. 2 to 12; and for other scriptural notices refer to II. Kings xvii. 6 to 11; II. Chronicles v. 26. B. C. 710—715.

† Royal Geographical Journal, part 1 of 1839, pp. 38, 39.

Hystaspes, and Alexander led their mail-clad legions, their elephant trains, and unwieldy engines of war through its defiles, when conquest or the suppression of rebellious subjects induced them to quit the genial climate of royal Ecbatana for a descent on the more fertile, but more sultry plains of Babylonia and Assyria. It was then, as it is now, the main pass on the high road between those provinces and the royal city, and formed the boundary between Media and Assyria ; and in the subsequent dynasties of the Seleucidæ, the Parthians, and the Sassanians, it undoubtedly held a conspicuous place in the boundary compacts entered into by the successive monarchs that have ruled over these disturbed tracts; and, strictly speaking, at the present time forms the line of demarcation between the Ottoman and the Persian empires.

The ascent of the most difficult part of the pass occupied us exactly an hour from the Bishiweh plain, and in this short time the temperature had varied some 25°. The oppressive heats of the plains were exchanged for the bracing air of the mountains, and the wearied spirits of the party rose in the same proportion: even the very mules, notwithstanding the labour they had undergone in the ascent, seemed to gain renewed vigour, and now trudged lightly along with their heavy loads at a quickened pace.

Half way up the pass stands a venerable arch of white marble, from whence its name Taki Girrah.* It is no doubt of very great antiquity, but bears neither inscription nor design. The architecture, though not of a superior order, is massive and well-defined. It was, however, viewed with interest from the historical associations probably connected with it, contrasting vividly with its present bleached and time-worn appearance.

Quitting the short angular turns that we had been compelled to take on the ascent of the pass, at 11.20 we entered the narrow defile, or gorge, which severs the higher range of Mount Zagros from the lofty crest of the Band-i-Noah Chain. This chain is the most westerly of the Persian mountains, and forms the great barrier between the alluvial plains of Assyria east of the Tigris, now termed Irak Arabia, and the mountainous districts of Persia.

The scenery at this time became very grand. On either hand the dark foliage of the oak, overspreading the sides and summits of the mountains, was here and there relieved by a bare abutting crag. A brilliant moon over head reflected its beams on the pale "arch holding the road," now left honoured in its solitude a thousand feet below us. The road continued to ascend through the gorge in a general direction

* See Major Rawlinson's Notes in Royal Geographical Journal, before quoted.

of 130°; until we arrived at the village and Khan* of Surkhi-Dezr, at midnight. Here we halted for the night, glad enough to exchange the light clothing in which we had been clad since leaving Baghdad for the warm beds that awaited us, spread out under the canopy of heaven on the house-tops of the village. Sleep, however, did not visit us as soon as we expected, although we had now been without rest for twenty-four hours,—the splendid scenery around, and the delightful change in the climate, serving as a subject of conversation for some time after we had retired to rest.

August 28th.—Resumed our march through the defile at 5, over a

* The remains of a fire temple are seen close to the Khan, supported on massive arches. This interesting relic of Magian adoration is on a spot well selected by

"Those who made their altars the high places of earth, o'er-gazing mountains."

The fondness of the early Persians for elevated sites whereon to perform their religious observances has often been remarked, and Herodotus, in speaking of them, remarks:—

"Their custom is to offer, from the summits of the highest mountains, sacrifices to Jove, distinguishing by that appellation all the expanse of the firmament. They also adore the sun, the moon, earth, fire, water, and the winds, which may be termed their original deities."—Book i. chap. 131.

He, however, shortly afterwards distinctly states that they possessed no temples, and sacrificed without the aid of fire. But in these respects we may presume the historian has derived his information from a wrong source,—for fire temples must have originated when the system which Zoroaster is reputed to have founded, or reformed only, caused a revolution in the more ancient forms of worship. Indeed, long prior to the era of Herodotus, we have undoubted evidence in scripture history of the existence of temples, and the employment of fire as a sacred element in connection with the Mithraic worship of the sun. In II. Kings xxiii. 5, 10, 11, 19,—some seventy-five years before Cyrus ascended the throne of Persia, and consequently nearly a century and a half before Herodotus was born,—we have the mode of the Mithraic worship distinctly characterised almost in the words of that author himself: and the houses of the high places which Josiah destroyed cannot but signify the temples that had become dedicated to the new doctrines attending the worship of the elements.

Rollin (art. iv. chap. iv. book iv. of his Ant. Hist.) in quoting from Xenophon, notices the ambiguity of the ancient authors, but would also lead us to suppose that temples were inconsistent with the right worship of the Deity, who, according to the tenets of Zoroaster, should be adored in the open air; and relates that Xerxes wantonly destroyed the Grecian temples as being incompatible with ordained observances; yet he subsequently admits that one of the great effects of the reformation of Zoroaster was the institution of temples in which the sacred fire was carefully preserved.

We are aware, at the same time, that the destruction of the Grecian edifices took place when Xerxes made his inroads into Greece; for we have authentic accounts of the barbarous retaliation that Alexander the Great, in a fit of intoxication, practised after the fall of Persepolis. The reasons, therefore, that induced Xerxes to raze the temples of Greece, must be assigned, I think, to the acts of the iconoclast rather than be viewed in the same category as Xenophon,—for Zoroaster, although we are ignorant of the precise period of his advent, is well known to have flourished long before the reign of Xerxes,—indeed, in an age prior perhaps to the Median, if not even anterior to the Assyrian monarchy: we may consequently presume that the monarch was a follower of the reformed religion, and perhaps a frequenter of these esteemed edifices, whose existence, *ab initio*, appears to have been essentially requisite to the full working of the system.

very rough road, and so narrow at times that the caravan was compelled to proceed in single file. The morning was very cool and pleasant, a fine easterly wind blowing down the defile. At 6.55 we arrived at the ruins of the old fort of Sar-mil, anciently called Tur. From Surkhi-Dezr to this place the general bearing is 135°. On the route we inquired of our guides the present name of the Zagros Range to our left, and were surprised at hearing the appellation of Zarr applied to it. Major Rawlinson deems this the original of the Greek Zagros, which is, indeed, probable. At the old fortress of Sar-mil the space between the mountain ranges gradually expands as they extend to the SE. into the rich plain of Kirrind, abounding in water, and studded with the neat villages of the Kirrind Ryots. Sar-mil is mentioned in the old Turco-Persian treaties as the boundary of their respective empires in this part, and a garrison formerly occupied the spot. We were informed, with great gravity, by a greybeard of our party, that an old well, now filled with rubbish, was actually stored with charcoal for the delineation of the frontier line when the last treaty was framed; nor did our laughing and incredulity at all disconcert him.

At 7.5, remounting, we pushed on at a more rapid pace through the plain, in the direction of the Kirrind gardens, which bore from Sar-mil 129°. We were met on our way by many of the chief people of the place, headed by two of the late Governor's sons, who managed their horses with all the ease and dexterity of accomplished horsemen, although the eldest is barely twelve years of age.

At 8.40 we turned abruptly to the north, towards the town, which now showed itself seated in a deep and romantic gorge of the heights of Zagros, and 9 found us located in the best room of the Governor's house, surrounded by all the luxuries the place afforded. The owner of the mansion is however not here, but a state prisoner at the capital, Teheran. The case of this individual is a harsh one, but by no means solitary in the annals of Persian despotism. About three years ago, he left Kirrind for a neighbouring village, and during his absence the Amir of Kirmanshah visited the place on a tour through the province. The character of the Amir was stamped with the usual vicious propensities of Persian functionaries, and those who resided in the province under his rule had submitted for a long time, with tolerable grace, to every species of tyranny and oppression. The Ali Ilahi, to which sect the Kirrindis belong, had suffered more than their Mahomedan neighbours, in having been called upon to submit their wives and daughters to the embraces of the imperious Amir. Such conduct naturally irritated these bold mountaineers, and two individuals that were sent to remonstrate with the haughty prince were pistolled on the spot. This led to his immediate assassination by the Kirrind people, who, fearful of the consequences, left

their houses and sought shelter in the mountains. At this time the chief of the Kirrindis returned, and, hearing the state of affairs, sided with his clansmen, and this constitutes his whole offence. By oaths and promises of safety he was induced, after some time, to visit the capital, and, I need scarcely add, suffered, for his credulity, an incarceration that will, I fear, end only with his life. His family of four sons and a daughter still reside here, and came this morning to visit Major Rawlinson: kneeling together on the floor of the apartment, the two eldest boys took hold of the skirt of the Major's coat, and, with oriental reverence, pressing it to their lips, requested, with tears in their eyes, his intercession for the liberation of their father. The attitude and entreaty of these fine boys was painfully interesting, and will no doubt induce the old friend and guest of their father to exert himself for his release.

Kirrind* has an extremely pretty appearance, being situated in a deep gorge of the Zarr range. The houses, though small, are neat, and built in terraces on the slope of the gorge, with the naked and scarped rock rising abruptly above them. The aspect of the village resembles that of Beilan, in a gorge of the Amanus range, leading from the Bay of Skanderun into Northern Syria. Rich gardens extend up the defile and along the base of the mountain, which produce a variety of fruits, including the celebrated stoneless grape known as that of Kirrind. The willow and lofty poplar attain a considerable size on the margin of a mountain stream that bisects the village, and is afterwards turned off into smaller channels for the supply of the gardens in the plain. Several copious springs, issuing from the plain, which is here about three miles broad, add their waters to numerous mountain streams, and form the sources of the Abi Kirrind, the NW. tributary of the Kerkha† river. It

* Karine of Isidore of Charax. The village is in latitude 34° 16′ 59″ by double altitudes of the ☉. By merid. alt. 34° 16′ 24″ N. Its chronometrical difference east of Baghdad is 1° 46′ 05″.

† The Kerkha river is generally recognised as the ancient Choaspes. It was until lately navigable as far as Hawiza, but by the "bund" or dike at that place bursting in 1839 its waters have been distributed over the whole adjacent country,—but principally accumulated in a large lake formed (by the Tigris passing through the Hud, and the Duarij stream) in the low ground lying between the Tigris and the Hawiza. This lake inundates the whole country as far south as Kurna, and is connected again with the Tigris by numerous outlets, some of considerable size, which debouch in the neighbourhood of the tomb of Ezra. The Suaib is, however, the principal mouth of the Kerkha river. It joins the Shat-al-Arab five miles below the junction of the Tigris and Euphrates.

The Hud, spoken of in the above note, has given rise to much controversy. Many travellers have treated it as a distinct river, and the compilers of a recent work entitled "Ancient History," erroneously identify it with the Gyndes of antiquity. The Hud indeed is but a branch of the Tigris, and the term river, as frequently applied to it, is an egregious misnomer. In latitude 31° 52′ N. the Tigris turns abruptly to the east, and continues this course for sixteen miles to the mouth of the Hud in the same latitude, whence it again suddenly turns to the south. This formation of the bed of the Tigris then sufficiently accounts for the existence

joins the main river, after flowing past Harunabad, in the neighbourhood of Rudbar, about due east of Baghdad, and south of Kirmanshah.

The temperature in the room at sunrise was 66°, and at 3 P. M., the hottest time, only 85°; a delightful change after a long residence in sultry Baghdad. A mild easterly wind prevails throughout the nights, and is followed by a refreshing westerly breeze that lasts during the day. These are as regular as the land and sea-breezes experienced on the Malabar Coast of India.

We spent two days in the company of our friends the Kirrindis, and were much pleased at the frank and hospitable reception they extended to us. It is true Major Rawlinson had spent some time amongst them when serving in Persia, and, indeed, commanded a regiment of Gurans, which he raised and trained, composed solely of these mountaineers, many of our present friends having formed part of the corps. Of the Ali Ilahi sect, and jealous of inquiry into the mysterious tenets of their faith, they are tolerant of all other religions, and exempt from the prejudices of the fanatic Shiah. This evening the chief people entertained us at dinner, and sent for a party of dancing girls for our diversion. They were by no means handsome, but sang some lively Arab and Kurdish airs, accompanying them with the castanets. These people appear to be itinerant gipsies, and lead a nomade life in this part of Persian Kurdistan. They are termed Susimani, and speak a dialect very similar to the vernacular Hindustani.* When young, the women are said to be pretty,

of the Hud in the angle of its diverging courses. The Hud, from where it leaves the Tigris, pursues a direction generally of ESE., but becomes divided into many smaller branches a few miles distant from the main stream, where the country is considerably depressed, and below the margin of the Tigris. In 1841 I descended the Hud in the steamer Nitocris, but was compelled to retrace my course *against the stream* when I had advanced but twenty miles, from its intricate and numerous turnings. A few miles further, I was informed, would have conducted me into the Lake of Hawiza, but, impeded as I was by numerous dikes, with scarcely sufficient room to turn the vessel in, and surrounded by hostile tribes ever ready to take advantage of any accident that might happen to the vessel, I felt that the risk incurred would be more than commensurate with its advantages, even did the depth of the lake permit of its navigation by the steamer, which is a very doubtful point. The Karadeh, a small boat resembling a canoe, in use among the tribes inhabiting these marshes, I am told, performs the distance between the mouth of the Hud and Hawiza in three or four days. On the subject of the Hud, see also page 142, where it is alluded to in a note.

* Rich, on his journey to Persepolis, met with a tribe of Iliyat, called Gergers, or goldsmiths, who seemed, by their dialect and habits, to be a tribe of gipsies. He gives many phrases as obtained from them that would assimilate them to the Susimani Kurds, and, at the same time, show a remarkable affinity to Hindustani; those that I can recognise I copy from his work entitled "Babylon and Persepolis," p. 259:—

Ave, or Ane—Come. Ja imper—Go. Keni jeti—Where are you going? Sugherdan—What have you done? Yagh—Fire. Panee—Water.

In the New Monthly Magazine for June 1841, I observe, too, in a notice of Barrow's work, on the Gipsies of Spain, that this remarkable tribe bears the appellation of Zincali or Zingali. In them perhaps we may trace a connection with the Zengani families inhabiting this part of

and obtain a precarious livelihood solely by the exercise of their Paphian vocations. The better classes of the profession are, however, sometimes attached to the houses of the influential men, to afford amusement to their families, and lead a life of comparative enjoyment, though by no means a virtuous one; virtue, indeed, is unknown among them.

We were busily employed during our stay here in testing the performance of our little chronometer, which proved to be very satisfactory, considering that it had not only been exposed to a sudden change of temperature, but had also sustained some unvoidable shocks. Two routes, both of equal interest, lay before us on the morrow, but as the Calhurs, a large tribe, possessing the country to the south, are in rebellion, and in arms against the Kirmanshah Government, we are informed that it will be dangerous to attempt the more frequented road by Harunabad with so large a caravan. At this intelligence we are much disappointed, for one object in coming this way is to obtain a stone that is reported to be covered with inscriptions at the above place. After some debate, a small party of Gurans agree to accompany Mr. H. by the lower road to Harunabad, where he will endeavour to obtain the coveted stone, or, at all events, procure a copy of the legend inscribed upon it; while the baggage proceeds by an easy pass to the south, on to the capital, Gahwarah, where Major Rawlinson and myself will join it by a direct but more difficult route across the high range of the Zagros.

August 29th.—The parties making the detour according to the above arrangement, having left before us, Major Rawlinson and myself, at 2.15, started on a course due north, up one of the most steep ascents that probably a horse has ever gone; in fact, the pace partook more of the clamber than the walk, over rough loose stones or masses of rock, direct above the village of Kirrind to the summit of the Zagros. After much floundering, and serious risk, both to man and horse, we gained the top at 3.10, and halted to rest the jaded beasts near a conspicuous old oak, which stands here in solitary grandeur. What a magnificent view is now before us! To the E. and NE., at a short distance, lay the table-flats occupying the crests of the Dalahu Range, with the solitary hamlet

Kurdistan, and who, though now professing Mahomedanism, formerly exercised the Susimani *virtues*, and, indeed, own to a gipsy origin. The interchange of the *g* for the *c*, and the *l* for *n*, in the name, is well known in all eastern dialects, and Mr. Barrow, though not venturing to pronounce on the origin of the family, points out its connection with the east from the Sanscrit roots that abound in the language of the tribe. Portions of this interesting race at times wander into the vicinity of Baghdad, and are known to the Arabs of the plains by the names of Zinkani and Kauli; *quasi* Kaouli or Kabuli, from Kabul, in Affghanistan, whence they are said to have originally wandered. It will be seen, too, from Colonel Harriot's interesting paper and vocabulary in the Royal Asiatic Journal, that the language of the English gipsy is identical with the Sanscrit and Persian tongues: on inquiry, most of our slang terms, as derived from this interesting race, will be traceable to some of the most primitive dialects that we are at present acquainted with.

of Biwanij in the plain of the same name, immediately under us, and exhibiting in its smoke the only trace of animation around. The barren peaks of the Kal'eh Kazi group, less high, but more remote, and seen through the break where the Abi Zemkan forces itself, holds a central place; while the lofty mountains of Shahu and Parrow, at the distances of ninety and sixty miles respectively, terminate the prospect in this direction. To the SE. and S. the rich plains of Kirrind and Harunabad, celebrated in antiquity as the theatres of war and pageant, gradually fade in the indistinct features of the Calhur province, or are hid in the shade of the lofty Zagros, over which are seen the distant peaks of Manisht and the Luristan chain of the Kebur Kuh; and, bounding the horizon to the west, thousands of feet below us, like a vast sea, extending as far as the eye can compass, are the fertile and long-coveted districts of Babylonia and Assyria. * What a rich tableau is here spread before the gaze of the conqueror! I question, however, if any of the many monarchs who, from time to time, have swayed the destinies of Media, or of Persia, ever saw displayed, at a single glance, as we do now, the various provinces they so often traversed with their legions, or which had been gained for them by the grasping ambition of their ancestors.

A round of bearings was taken from this point as follows:—North brow of Dalahu, extending at 325½° to 339°; high part of the Band-i-Noah range, 264°; a high peak, supposed to be that of Manisht, 193½°; brow of the Kebur Kuh, 165°; another bluff remarkable point, 2°, open to its right; peak of Parrow, over Kirmanshah, 84½°; peak of Kal'eh Kazi near the pass, 78°; approximate direction of Gahwarah, 83°; village of Biwanij, in the plain below, distant about ten miles, 330°; highest point of the Shahu mountains, 17°.

At 3.30, leading our horses, we commenced the descent into the Biwanij plain. The descent we found equally as abrupt as the western face, and riding was therefore out of the question. On reaching the plain, which from the summit of the range appeared quite level, but now exposed to us undulating ridges with abrupt acclivities, we mounted, and took the direction of Gahwarah, as noted in the bearings. After leaving the plain of Biwanij, the road gradually ascends over the lower slopes abutting from the SE. prong of the Dalahu heights. These slopes, as well as the higher ranges, are thickly studded with the dwarf oak, in pleasing contrast with the scrub-clothed soil of the intermediate plain. Forded the Zemkan river, whose source is in the plain of Biwanij, at 5.35, and ten minutes after passed the hamlet of Gowraju. Traversing the same kind of country, alternately over hill and dale, we reached Gahwarah at 6.45, having been met at some distance from the town by the Guran chief, with a numerous retinue, both mounted and on foot. The

presence of their old Colonel among them was hailed with universal delight by these wild mountaineers, and was testified by wild shouts, sham encounters, and firing of their matchlocks, until we reach the halting-place. The journey to-day, though made in the heat of the sun, was by no means disagreeably warm; and an ample meal, furnished by the chief, who partook of it with us, soon showed, by its appearance, or rather by its disappearance, that our appetites had been rendered keen by the bracing air of the mountains.

Gahwarah,* though scarcely deserving the name of a town, is the capital of the Guran country. It may contain about three hundred houses, which, like those of Kirrind, are flat-roofed, and rise in terraces on the slope of the mountain. It is the residence of the chief, Shabas Khan, who is also the head of the Guran levies when the Amir of Kirmanshah requires their services in the field. Ten years ago, when the Persian forces were commanded by British officers, Major Rawlinson was appointed to raise a regiment of Gurans for the service of the State. This he accomplished, after some trouble, and resided in this locality until he had brought his new corps into a state of perfection almost unknown in these regions. He afterwards led this regiment through the intricate passes of Luristan and Susiana, and to this journey, and to his residence among the Gurans, we are indebted for his admirable paper† on the comparative geography and historical notices of some of the most interesting countries alluded to by ancient writers, and which had seldom, if ever, before been trodden by the foot of an European. A great change has, however, happened since the British officers were withdrawn, and this corps, that before consisted of near 800 rank and file, now scarcely mustered 350 bayonets. Oppression, wages in arrear, irregular service, and a thorough absence of system, are the chief causes of this decline. The same causes have operated, in a more or less degree, on the whole Persian army, under the imbecile government of the present Shah, and the tyrannical conduct of provincial governors. At the present time Mohab Ali Khan, the Amir of this province, is compelled to confine himself to the city of Kirmanshah, the large tribe of the Calhurs having risen, not to seek redress for imaginary grievances, but to obtain the justice which has hitherto been denied them. The extent to which taxation had of late been raised rendered it utterly impossible for the poor cultivators to comply with the increased demands; and then the rapacious agents of so worthy a master, equally alive to their own interests, resorted to a system which in a very short time left the brave but oppressed Ryot nothing but his sword to subsist by. Can

* Gahwarah is in latitude 34° 20′ 35″ N., by double altitudes of the ⊙; by mer. alt. 34° 20′ 13″ N.; and is east of Baghdad 1° 56′ 05″.

† Notes on a March from Zohab to Khuzistan, in the Royal Geographical Journal, vol. ix. 1839, part 1.*

it be wondered at, then, if that weapon was appealed to? The system adopted by these worthies, who were mostly confidential Sirbaz of Azerbijan, and not remarkably celebrated for humanity, should not be left unrecorded. On collecting the taxes, how few were enabled to realise the sum demanded from the augmentation of the imposts, I have already shown. It became necessary to borrow the deficiency to save the individual from a prison. Advantage, too, was taken of the time for levying these dues when the crops were nearly ripe, and when the abstraction of the Ryot from the scene of his toil would be attended by utter ruin. In this alternative there was no remedy but to obtain from the Agent himself, who—having foreseen, and indeed created the calamity—was ever ready to lend, at an exorbitant interest, the sum required; the flocks, crops, and even the household goods, of the borrower being at the same time mortgaged as a guarantee for payment. The result can easily be anticipated: debt accumulated on debt, and within a year the whole property of a once thriving family became a prey to the officers of Government who should have protected it! Families thus driven from their peaceful abodes infested the highways in search of plunder.

Troops were sent to quell the disorders, which had originated in the acts of Government, and, failing in their object, from the nomade habits of the marauders, the tribe to which they belonged was not only compelled to refund a sum equivalent to the property said to have been stolen, but, at the same time, was bound in the payment of a large amount for the future transgressions of the delinquents. The grasping policy of the Amir or his subordinates soon found pretences for the acquirement of a penalty which coercion could alone obtain,—the attempts at which occasioned a general appeal to arms, and finally ended in open rebellion. The state of the troops in the province, from the causes already related, was unequal to the emergency, and the Amir was thus compelled, by a disgraceful compromise, to pacify the insurgents until reinforcements are obtained from the capital. Before, however, this visitation takes place, the tribe will have abandoned the soil for some more peaceful district, leaving nothing but ruined hovels and smoking fields for the oppressor to glut his vengeance upon. Thus are individuals driven to crime, whole families ruined, tribes forced to quit the territory derived from their ancestors; and to these causes we must, in a great measure, assign the depopulation and impoverishment both of Persia and Turkey.

All this is, however, a digression from the description of Gahwarah, which I now resume. Of the same elevation above the sea as Kirrind, it lies at the foot of what may be termed the SE. prong of the Dalahu range, the culminating point of the Zagros. If we except the project-

ing point of Ban-zardeh, the form of this high ridge, or crest, may be likened to an irregular horse-shoe, with its convexity to the NW., and its prongs gradually curving, at a distance of ten miles apart, to the south-eastward. The village of Kirrind occupies a position near the extremity of the western prong, while the interior, or concavity, is filled up by undulating slopes from the eastern ridge, terminating in the plain of Biwanij.

In this concavity, the Abi Zemkan takes its rise, and, running to the SE., at a distance of three miles west of the town of Gahwarah, to the same length south of it, turns abruptly to the north, and again passes close to it to the eastward, thus making a circuit of the SE. prong of the mountain.* Confined between the east face of Dalahu and the steep barren cliffs of the Kal'eh Kazi chain to the eastward, it pursues then nearly a direct course of north until past the oblique declivities abutting from the NE. brow of Dalahu, in the neighbourhood of Bibiyan and Kal'eh Zanjir, when it receives many petty adjuncts, and in the winter becomes a considerable stream. It then diverges to the west and NW., keeping the latter direction through the vale of Darneh,† bounded by the undulating peaks of the Pushti Kuh to the west, and by the precipitous range near which the ancient city of Darneh stood to the right; finally falling into the Abi-Shirwan, or upper Diyaleh, opposite the base of Nilambu Range, a few miles south of Gundar, in the Sulimaniyeh territory, and about 100 yards east, or above the ancient bridge of eight arches that in former times spanned the Abi-Shirwan, and conducted directly from Sulimaniyeh to Kirmanshah. The Guran Kurds‡ are represented as a brave, frank, and hospitable race, and, like most mountaineers, are hardy and enduring. They are, however, prone to quarrel, and serious frays, terminating in bloodshed, and the almost total extinction of the rival factions, are said to be of frequent occurrence. An injury is seldom forgotten, and will, sooner or later, be revenged. These contentions generally originate either in domestic broils or clan hatreds, and are at times secretly encouraged by the Persian authorities, who find it difficult to coerce them in their mountain fastnesses, and whose policy is, therefore, to keep them in check by intes-

* The ranges on either side of the Zemkan expose vertical limestone strata, much abraded by the action of the stream.

† See Herodotus in Clio, 189. In describing the Gyndes he expressly states that that river ran through the country of the Darneans; we can, therefore, I think, without being far wrong, identify the Diyaleh with the Gyndes of antiquity. The ruins of Darneh are still to be seen, it is said, on the left bank of the Zemkan, and an old man now residing at Az-galleh is pointed out as the last lineal descendant of the proud family of the Darneans, who so long ruled over the district. At all events the name is well known, and Major Rawlinson also assigns the Darna of Ptolemy to this locality. Royal Geographical Journal, vol. ix. part 1, p. 29.

‡ Like most of the Kurdish tribes, they occasionally wear, when at war, an armour consisting of a chain head-piece and a shirt of mail.

tine discord. Very little is known of the peculiar and mysterious tenets of their faith, which appears to embody the various doctrines of Judaism, of Christ, and of the Shiah Mahomedans, from the time of Moses to that of Ali. They are termed Ali Ilahis, and are supposed by Major Rawlinson to be of Jewish origin. It is said their religion enjoins that, at certain periods, they shall congregate at night in a particular spot. At these times the greatest license is said to prevail, and the promiscuous intercourse of the sexes to form part of the ceremonies prescribed by their singular creed. In this respect they resemble in their faith the Ancyrians of Syria, if the conjectural stories related of them have any foundation on truth. It is certain, however, that a more than masonic secresy is maintained among them in regard to the mystical rites and ceremonies connected with their religion, and that they are, moreover, exceedingly jealous of inquisitive inquiries on the subject.* Both the Ali Ilahi of the Zagros and the Ancyrians, inhabiting the lofty range of the same name to north of the Lebanon, in Syria, may, indeed, be remnants of the early Babylonians, who we know on their religious festivals indulged in every species of libertinism and licentiousness;† and these, on the irruption of the Medes and Persians, and the spread of the Magian theory over the land, for the purpose of enjoying in peace the worship of their fathers, may have retired to the almost inaccessible but secluded summits of the highest ranges on either hand. The Ali Ilahis, as well as the Ancyrians, when sojourning in Mahomedan cities, outwardly conform to the ceremonies of the established faith. They also adopt the deportment and dress of their Mahomedan rulers, so as not to

* I remember, when travelling in Syria with the late Dr. Floyd, in 1840, that an Ancyrian guide had been furnished to conduct me from Antioch to Suadujeh. Having heard much of these singular people, and being anxious to verify some of the stories related of them, when arrived at a secluded spot amid the beautiful scenery bordering on the Orontes, I ventured to inquire, by a general question, the nature of the faith existing in the mountain. I had been conversing with him before on other topics connected with the Government and the road, to which he responded readily, but I had no sooner changed the subject to what affected him personally, than I found myself alone, the guide having sprung into a neighbouring copse, and was instantly lost to view. I afterwards regretted the curiosity that had prompted me, for I lost my way, and had to remain all night exposed to a violent thunder-storm.

† Herodotus, book i. chap. 199, and many other authors describe the curious customs of the Babylonians on their religious festivals. At these times money was collected and applied to sacred purposes. The same orgies may be observed at the present day in many of the Hindu temples, not only during the great festivals, but at other times, when a profit is derived from the intercourse of pilgrims and visitors with the professional actresses attendant at the various shrines, who are selected for their beauty, and devoted to this service from an early age.

Even the more civilized Greeks, during the Græco-Macedonian occupation of this country, on the great festivals dedicated to Bacchus and Serapis, abandoned themselves on this soil to every species of license and extravagance; and, in celebrating the rites of the Dioscuri, they probably excelled their Babylonian archetypes in the extent to which their debaucheries were carried.

excite the prejudices of the fanatic people.* I have, however, heard both parties regret the necessity that compelled them to resort to the deception, and have even seen the former mimic the devotional prostrations of the "true believer."

The Ali Ilahi, though generally congregated on and around the higher parts of the Zagros, sometimes descend, in the winter, to the more genial climate of the neighbouring plains. A few scattered families were also met with by Major Rawlinson in Luristan, but, I believe, the Gurans seldom venture into the more northern districts beyond Zohab.†

Whatever the religious code of the Guran may be, it is evident that his moral one is not of a very high order, and that the precepts inculcated in the Persian youth during the age of the greater Cyrus have been either forgotten or perverted in the lapse of ages. The art of drawing the bow, indeed, is still retained, but, instead of the warlike weapon of the name, it is that now termed *par excellence* the "long-bow." The strict regard to truth is, in fact, as foreign to them, and to the whole Persian nation, at the present time, as is the use of the primitive weapon of our forefathers. Dr. Ross, who visited the Guran camp in 1835, furnishes me with a characteristic anecdote of these people, but it will equally apply to the whole Persian nation, who individually and collectively from the Khan to the Fellah are unworthy of belief. I copy it from his journal in his own words:—"To-day had a good specimen of

* The Ali Ilahi, when in their own villages, if we may judge by their acts, do not deny themselves the use of wine or spirits, nor do they abstain from the prohibited food of the Koran; on the contrary, they indulge freely both in swine's flesh and intoxicating liquors.

The features of the Ali Ilahi, as well as of the adjoining tribe of Calhur, certainly display a Jewish cast, and warrant the supposition of their Jewish origin; and their own traditions and Judaical doctrines tend to strengthen the inference. If not, therefore, of a Babylonian stock, we must view them as a remnant of the Samaritan captivity. Asiatic history abounds in instances of the depopulation of conquered towns by victorious monarchs, and in the substitution of other races for the primitive occupants, in order to maintain a peaceful possession of the newly acquired country. See Heeren on the Constitution of the Medo-Persian Empire, chap. ii. p. 4. Scripture History also furnishes us with many examples of such transactions, particularly when Shalmaneser, king of Assyria (II. Kings xvii. 24), took men from Babylon, Cuthah, Ava, Hamath, and Sepharvaim, and placed them in the cities of Samaria instead of the Jewish captives that he removed into Assyria. In verse 6 of the same chapter it expressly states that he placed them in Halah and Habor. The former has been already identified with the modern Holwan (R. G. Journal, vol. ix. part i. p. 35) and the Calah of remote antiquity, and therefore little room is left to doubt but that both the Ali Ilahi Gurans and the large tribe of Calhur are the descendants of the Samaritan captives. The retention of their religion and mysterious usages will correspond well with the anathemas launched against them by Moses in Deuteronomy xxviii. 36, 37, where it says, "The Lord shall bring thee, and the king which thou shalt set over thee, unto a nation which thou, neither thy fathers, have known, and there shalt thou serve other gods, wood and stone, and thou shalt become an astonishment, a proverb, and a byeword, among all nations whither the Lord shall lead thee." See also Levit. xxvi. 32, 33, and 39.

† Bibiyan, Kal'eh-Zanjir, and Palan, are their most northern positions.

Kurdish oaths. The Prince of Kirmanshah had sent an official to inquire into an accusation laid by some travellers against certain people in Zohab (naming every individual), of having beaten and robbed them while lodging in their houses. The officer was very fierce on his arrival, and nothing but the restoration of the property, and severe punishment of the delinquents, would satisfy him. Sulliman Khan, the blind chief of the Guran Kurds, who rents the Zohab districts for 10,000 Tomauns, ordered the accused before him. To-day they arrived in custody of the prince's official, who, however, seemed wonderfully changed, and said he should be satisfied of the innocence of the suspected parties if they gave their oaths: the fact is, in the mean time he had been bribed. The Kazi was called, and they, being Sunis,* were to be sworn on the Koran by the three divorces of their wives and by the Khan's head. The former was readily agreed to: to the latter they demurred a little, but upon the Khan saying, 'If you are not guilty, swear,' the spokesman said, 'Oh yes; whatever the Khan says we will swear to.' After the usual ablutions, no Koran could be had among nearly 2,000 of the faithful. At last Major Rawlinson produced one, and the ceremony was completed, a small stone being thrown down for each vow of divorce." The Doctor concludes with, "I never saw a more barefaced prostitution of any law or religion."

August 30th.—A cool morning succeeded to a rather warm and restless night. The situation of the chief's residence debarred our enjoying the light airs that blew from the eastward, and the myriads of tormenting sandflies that shared our otherwise comfortable apartment admitted but of little repose. Being anxious to conceal as much as possible the nature of our operations from the natives, Major Rawlinson withdrew, attended by the villagers, to the cool shade of some luxuriant walnut trees, while I occupied myself in taking the necessary observations† for ascertaining the position of the place. This was satisfactorily accomplished without exciting suspicion: and here I may remark, that a too great caution cannot be observed by travellers in this respect when journeying among superstitious Asiatics; for a casual display of a brass instrument, by exciting the cupidity of the lower orders, may tempt them to plunder, and at the same time cause, in the minds of the better classes, a distrust as to the motives of the stranger in visiting so distant a country, which may terminate in the loss of his liberty, or even be attended with serious risk to his life.

* It must be remembered that the Gurans, as I have before remarked, conform to the usages of the Mahomedans when in the towns, or in the presence of Mahomedan functionaries, and are judged, I believe, in all respects with the same forms as the real followers of the Prophet in the law courts; or, which is oftener the case, condemned unheard, unless, indeed, the rigour of the edict be softened by the administration of a timely bribe.

† The results of these observations are given at page 159, under the head Gahwarah.

A sumptuous breakfast was discussed in company with our host and a Sinjabi chief. The viands were laid on carpets, spread on a raised platform, built around the trunks and under the umbrageous foliage of a copse composed of the walnut, the willow, and the stately poplar. Numerous artificial ducts convey the clear cold waters of the Zemkan in every direction around us. Uniting at a point about fifty yards beyond where we are seated, they form a cascade, and serve to set in motion a few flour-mills that are now in active operation, and lend their aid to the suppressed murmurs of the torrent below in breaking the otherwise general stillness of the surrounding scene.

Some anxiety is now felt at the non-arrival of Mr. H., who should have joined us this morning from Harunabad by the unfrequented road through the mountains to the south. The state of the country, indeed, causes serious alarm at his protracted absence, and as a further delay here will prevent the execution of our plans, we are compelled to leave in inquietude and uncertainty. At 2.55 P. M., therefore, we resumed our route, after despatching some horsemen to the south in quest of our friend. Our course now lay along the left bank of the Zemkan, up the valley of the river in a direction of north. At 3.30, the river was forded again, and a general, but rather circuitous route was kept of 56°, while ascending the northern slopes of the Kal'eh Kazi range. At 5 the head of the pass was reached, after traversing a rough road over undulating ridges, bearing a sorry and barren aspect, but here and there relieved by small hamlets, surrounded with willows in the vicinity of a winter torrent. The head of the pass is about one and a half mile distant due north of the high peak called Kal'eh Kazi, and which gives its name to the whole range. From this point the extensive and fertile plain of Mahidasht is seen covered with the temporary villages and tents of the nomade tribe of Sinjabi. This tribe is a comparatively rich one, if we may judge from the number of the flocks that are seen browsing on the slope of the mountain and in the plain below. Descending into the plain, we continued a direction of 67°, at a more rapid pace, feeling some relief after our late mountain scramble. At 6.30, the road taking a direction of east, the following bearings were observed: a small fortified mound, probably an ancient tumulus, 20°, distant three miles; a small walled town or village, 56°, seven miles distant; walled village of Ohargunish, with an ancient tumulus close to it, 125°. At 7.50 the small, but at times impetuous Mirikh was forded. This now insignificant stream becomes deep and rapid in the winter. It rises in the plain about sixteen miles due south of Mahidasht, and, passing that village, continues a north direction until it meets the Kara-Su in the plain of Kirmanshah. At 8.15, a small village at the foot of the low range of Kamr-zard, bounding the Mahidasht plain to the eastward, became our

halting-place for the night: a more miserable abode could scarcely be met with by those unaccustomed to wayfaring in the east than the one we at present occupy. A raised platform of mud, on which the Khan or chief receives his guests, holds his councils, and dispenses justice, seeming to be the most inviting spot the place afforded, was obligingly given up for our accommodation. This was situated in a small enclosure, which boasted, besides the platform alluded to, of two small mud tenements, in which were secluded from mortal gaze the females of the Khan's family. The area of this den was occupied by mules, cows, sheep, goats, horses, and the other paraphernalia of a moving community; in addition to the goods and passengers of a Persian caravan, which, among other rare and live specimens of the *genus homo*, bears, in not very carefully sealed coffins, the corrupt remains of departed Shiahs on their way to the holy shrine of the sainted Hussein at Kerbela for interment. The stench arising from the cattle, from these disgusting relics of humanity, and from the accumulation of every species of filth in the interior of the place, was sufficient in itself to render the attainment of sleep a luxury to be desired. The evening meal which our saddle-bags furnished was hastily despatched, when report was made of the non-arrival of three of our servants that had preceded us. All was now bustle and confusion, for no doubt existed as to the cause of their absence in this disturbed district. Horses were re-saddled, and a large number of armed men, headed by the Khan himself, issued forth on the search for the missing party. Sleep was now out of the question, if, indeed, the numerous tormentors which infested our clothing would have otherwise permitted it. In a short time one of the missing servants, a Christian of the name of Sarkies, half dead from excessive fear, rushed in, and commenced a serio-comic harangue by disavowing his own identity, frantically exclaiming, "I am not Sarkies"—"This is not Sarkies that you see," and followed the sentences up with a copious burst of tears. This conduct in a stout, thick-set fellow, armed to the teeth as he then was, was too ridiculous to be borne, and, moreover, it prevented our obtaining any information as to the disaster. The production of the Fellek, used in bastinadoing, soon operated as a sedative, and the threatened administration of that wonderful medicine instantly restored his scattered senses. It appears from his account, that, anxious to have a place ready for his master's reception, he was induced to push on ahead of the party, particularly as a fine open plain was then before him. Two other servants followed his example. They had not gone far when dusk set in, and, coming upon a branch road, they stopped at a village near at hand to inquire their way. The artful villagers, ever ready for plunder, purposely misled them, and three individuals, said to belong to a strange tribe, who happened then to be stopping at the village, mounted

in pursuit. The party was soon overtaken, and, as a matter of course, abandoned their mules as soon as the horrible yell of the pursuers reached their ears: without waiting to observe the numerical strength of the foe, which in this instance exceeded not that of their own party, and were by no means so well armed, the prudent Sarkies beat an ignominious retreat, and, luckily, in the dark stumbled on the party sent out in search. On being questioned as to why he wore arms, he candidly avowed that a desire of distinction had made him vain enough to equip himself in martial guise, but he had learnt from the experience of this eventful night that the hero became him not, and discreetly enough determined for the future to abjure so perilous a pursuit. He was dismissed after an admonitory caution; and, heaving a long-drawn sigh, congratulatory of his escape from broken bones, he retired crest-fallen to his lair, and no doubt mentally pondering

> "On the dangers that environ
> The man who meddles with cold iron."

The night was passed in hearing the numerous conflicting reports that hourly arrived, but conveyed no satisfactory intelligence; and while Major Rawlinson gave audience to the incongruous relaters, I endeavoured, but in vain, to obtain the meridian altitudes of Saturn and Jupiter, in order to fix the position. The task, however, was a hopeless one, for the influx and reflux of the mob, coupled with the stamping of the cattle's feet, caused such a tremor on the ground that the mercury in the horizon was perfectly useless.

When morning dawned, nine prisoners that had been brought in from the suspected village during the night were paraded for judgment. They were certainly the most sinister rascals in appearance that the eye ever dwelt on, and their looks alone would be sufficient to condemn them in the mind of a partial judge. Persian-like, they all swore, by God, by Mahomed, and by Ali, that they were utterly ignorant of the affair; and as to having aided, abetted, or connived at such a flagrant act as the plunder of an Elchi to the Amir of Kirmanshah, Al hamd'l Allah, it was too well known that they were peaceful subjects of the Shah, and Ryots of the Amir, even to cause suspicion to rest upon them. Two of them, however, notwithstanding their vehement protestations of innocence, were recognised as having misdirected the servants, and were retained in custody. The rest were discharged, much to the chagrin of some of the native officers of the party, who were desirous of keeping them to grace our entry into Kirmanshah, after the prescribed customs, as established by precedent, pertaining to all public entries in Persia.

As the morning advanced, another of the absent party made his appearance in an unenviable plight, having not only his clothes much torn

but his flesh also. This worthy fellow, animated by the example of the brave Sarkies, had fled on the first alarm, and concealed himself some feet deep in a hedge of briars. His great alarm had overcome the sense of bodily pain that he must have endured while struggling to gain a secure position. This he at last effected, with the loss of his clothes, and more, of his skin. He was discovered in his "form" in the morning, and could, so great were his fears, scarcely be persuaded to abandon himself to the kind care of his friends, who, in their endeavours to release him from his uncomfortable bed, I am afraid, by the laughter of the relater of the story, inflicted on him a penance suitable to the ardour of his disposition. But "*arma virumque cano.*" The last and only stout fellow of the absentees has just arrived, bruised and wounded, but with a merry heart alternately laughing at the agility displayed by his fellow servants, and anon cursing their pusillanimity in no measured phrases. The hero, be it recorded, is the *cuisinier*, who, unarmed, saving his redoubtable spit, managed to keep the marauders at bay in hopes that assistance would arrive, knowing that the rest of the *cortège* could not be far behind. In this he succeeded, inasmuch as he saved his own mule and the property he was charged with. The robbers, fearing the proximity of assistance, were glad enough to decamp with the abandoned mules and their loads, leaving the brave *artiste* in possession of the field. Seeking a secure retreat, he prudently remained until the morning light pointed out the direction of our abode. This man is a Mahomedan; and I have been thus tedious in describing the events that occurred at Kamr-zard in order to show the *animus* that actuates the different sects both in Persia and Turkey. The ascriber to the national faith possesses at all times an inherent freedom and comparative independence, which stimulate him to energy and stamp on him a firmness of character; while the contemned and despised Christian, outcast as he is on his native soil, and in a measure unprotected by the Government, has long since lost all confidence in his own powers of action, and abandoned himself to the current that he could not stem. Patiently, and with seeming meekness, he awaits the favouring eddy that ere long casts him into the reflux of life-waters, and thus stealthily creeps up to a precarious proximity with the overweening Mahomedan, and maintains his position in the undefined society of which he is a member. To effect this, however, he is compelled to resort to cringing and obsequiousness, to cunning and deceit,—the degrading, yet predominant, attributes of an oppressed people. This is, however, only applicable to the Christians of the towns. The Nestorian tribes, and the Christians of the Lebanon, still possess a character for independence and courage, and display it too, when the tyrannical hand of their despotic masters obliges them to resort to arms.

August 31*st*.—Any further delay being deemed useless for the recovery of the lost baggage, we left at 11.25 A. M. Reached the summit of the Kamr-zard range* at 12.5, and observed Kal'eh Kazi to bear from it 254°. Parrow hill at the same time bisected 94°. Descended into the plain of Kirmanshah, and kept in a direction of 112°, occasionally winding along the base of Kamr-zard undulations. 1.30 P. M., halted in the shade of some trees on the margin of a pretty lake, covered with the beautiful and sacred lotus. It is called Sar-abi-nilu-fir, "the spring of the lotus fountain." We are informed that it is celebrated for the mermaids that wanton in its waters, and much astonishment was expressed at our incredulous looks. They nevertheless assure us, with all the gravity imaginable, that mermaids have not only been seen here, but have actually been combated with. The lake is stated to be fathomless, but this statement we can place as much reliance on as in the tale of the fair mermaids. A spring issuing from the foot of the undulating hills keeps the lake plentifully supplied with water; and close, too, are the remains of some ancient buildings, denoting, in all probability, the former existence of a fire-temple upon this spot.

Our halt here was enlivened by the performance of a man on stilts, who bestrode a hobby horse. He amused us with dancing, throwing the Jerid, and singing, in *ex tempore* verse, the praises of the Elchi-Bashi from Frangistan, and really displayed much agility in his various feats.

Refreshed with our halt, we re-mounted at 2.30, and crossed a small stream running from the lake, which must be supplied also from copious springs in its bed. Continued the former direction through the plain, which is highly cultivated, and is watered from the Kara-Su. The black tents and encampments of the Zangani Kurds serve as a contrast to the rich verdure of the extensive plain. At 4.30 a party of merchants from Kirmanshah, connected with Baghdad and India, met us about four miles from the town. These worthy people, in paying their respects to the Resident, had prepared in a secluded spot some excellent cool melons, of which we partook, and found very refreshing after the hot ride we had undergone: thanking them for their consideration, the journey was continued. When about two miles from the town, a cloud of dust announced the arrival of an escort of honour sent by the Amir. Our negligent line of march was now restored to order, so as to make as imposing an appearance as the circumstances would admit of; and the indefatigable Rejib failed not to place, in conspicuous array, the captured culprits of the Kamr-zard. Poor Sarkies, now divested of his martial bearing, and shorn of his arms, looked a very Sarkies indeed; and, instead of seeking

* A low undulating range, bounding the plain of Kirmanshah to the west. The small river Mirikh sweeps round the NW. end of the ridge, and joins the Kara-Su.

for new honours in the advance, contented himself with his humble position in the rear. Both parties soon neared each other, but the dust would scarcely permit our distinguishing the head of the procession. It turned out, however, to be the son of the Amir, with a numerous retinue of mounted officers, and some Sirbaz on foot. On meeting, the young prince in courtesy dismounted to offer the greeting and congratulations of his father to Major Rawlinson, who received him in the same manner. The compliments ended, we resumed our march for the city, preceded by the escort: the prince, an interesting lad of about twelve years old, riding by the side of the Major, and performing his part in the pageant with a dignity becoming a greybeard. The advance was conducted with the usual display of sham encounters, and a proportionate expenditure of ammunition, and the exhibition of the "pomp and circumstance of glorious war" up to the city gates. Our appearance on entering the town, however, more resembled the arrival of a caravan of flour sacks than the advent of honoured guests, for it was even difficult to distinguish the features of the party, so begrimed had we become from the dust heaped upon us by the varied evolutions of the retinue that preceded us. At sunset we reached the palace of the Amir, and were conducted to the presence, through numerous dark and ill-arranged passages, well adapted for defence in troubled times. The Amir, Mohab Ali Khan, a short but gentlemanlike personage, attended by his brother the Governor of Luristan, welcomed us with dignity and politeness. He is suffering from a musket-ball wound in the arm, received at the siege of Herat, seven years ago. The usual compliments having passed, we were served with tea, Kallians, and sweetmeats, in a small, open, but mean apartment looking into the courtyard of the building. We made but a short stay with His Excellency, as we felt fatigued, and were glad to retire to an excellent house that is placed at Major Rawlinson's disposal during our stay here. Our anxiety and alarms on account of Mr. H. were soon dispelled by his appearance, he having come on direct from Harunabad to Kirmanshah, in preference to joining us at Gahwarah. He succeeded in copying a Greek inscription which he found on a broken tombstone at that place, but failed in bringing the tablet away with him, from the jealousy of the natives. I shall have occasion to speak of this stone at a future time, and will now employ the organ in the performance of other duties equally essential to it, for I see a numerous array of the prince's domestics, bearing on metal trays a profusion of viands, to serve us as an evening meal, amongst which I recognise, by the pyramids of ice floating in them, sundry bowls of delicious sherbets, composed of the lime, the pomegranite, and the grape. This is hospitality, indeed! But, sad reflection, the poor man may be, and in all probability is, suffering from his prince's ostentation!

Two regiments of foot, comprised of Azerbijan Turks, are at present stationed in the town and its neighbourhood. The Amir, too, is a native of the same province, and the policy of thus quartering foreign troops in a distant province cannot sufficiently be extolled, as it enables the grasping ruler to carry out his oppressive measures on the governed in tolerable security, and, at the same time, with a freedom from annoyance which might otherwise be experienced from the employment of a sympathising soldiery. The great end and aim of all functionaries in Persia and Turkey is the inordinate possession of wealth; and this ruling passion extends through all grades of individuals, from the prince to the peasant; from the general to the private soldier, all are alike mercenary. An extortionate system is speedily organised for the attainment of their object, and insecurity of property soon results. Being deemed rich is an offence in the eye of the law, and means are quickly found for the transfer of private property into the hands of insatiate authority. The merchant is thus afraid to trade to any extent, and the cultivator will not sow where he cannot reap. Commerce is therefore almost entirely confined to the supply of the necessaries of life. Its luxuries are unknown, except to the despot. The community of the city, and the inhabitants of the province, are loud in their complaints at the present time, and many influential merchants that once resided in this favourite locality for trade have left the spot for less oppressed regions.

In a former portion of the Journal I have shown the nefarious system adopted for the collection of the revenue, and the usurious means resorted to by the agents, who are chiefly officers and soldiers of the Azerbijan regiments. They are reputed rich enough even to influence the money transactions of the place.

Kirmanshah,* under the government of Mahomed Ally Mirza, a few years ago, bore the reputation, and, I believe, justly too, of a thriving city. This prince, unlike his successors, and, indeed, of a different stamp from those who preceded him, by his energy greatly improved the province, and a security almost unknown in Persia soon pervaded the districts under his rule. His ambition, however, led him, like the Satraps of old, to covet some part of the fertile steppes contiguous to his mountain territory. He was the eldest son of the Shah of Persia by an inferior mother. He was undoubtedly brave, and in a greater measure independent. In 1821, with a considerable force, he succeeded in wresting the Pachalic of Zohab from the Turks, adding the rich plains, as far west as Khanakin, to the dominions of his father. His ambition did not stop here; but, having gained thus much, he conceived a design of marching against Baghdad itself. In one or two encounters he defeated the Turkish forces sent out to oppose him, and in a few days, would, in all

* Kirmanshah is in latitude 34° 18′ 45″ N., and east of Baghdad 2° 32′ 56″.

probability, have laid siege to the city, when the cholera appeared with great virulence amongst the troops. He became one of its victims, and died in the neighbourhood of Sherahban. The dreadful malady spread rapidly amongst the panic-stricken troops, who were compelled to retreat into their own territory, to the great relief of their Osmanli opponents. Since the death of that prince, Kirmanshah rapidly declined. Built on the skirt of an extensive and well-watered plain, it possesses every facility for becoming a rich and populous city; and its central situation on the main road between the capital of Persia and the once opulent cities of Baghdad and Moosul increases its local advantages.

To the rapacity of its successive governors, plague and cholera, those scourges of eastern cities, have lent their pestilential aid in reducing its population, which is formerly given as 35,000, a number exceeding perhaps by two-thirds the present amount. It boasted, too, of some handsome edifices, but these for the most part have gone to decay. The town, indeed, has but a mean appearance, from the approaches to it, and, were it not for the lofty turrets that flank the Anderun, or "women's apartment" of the palace, it would fail to strike the eye. Almost concealed in the uneven ridges of some undulating hills (Kamr-zard) that bound it on the south face, it is reputed hot and at times unhealthy. The gardens are, however, pretty, and contain some fine fruit trees. The slim and lofty poplar flourishes here in perfection, but is seldom allowed to attain to maturity in the present times. Internally, the town presents a picture of ruin similar to most eastern towns. The "palace" walls are surrounded by untenanted hovels, and decay presents itself whichever way the eye of the spectator turns. Its bazars are but partially filled, and, with the exception of fruits, which are abundant, offer but little proof of commercial enterprise. Kirmanshah was celebrated for the richness and beauty of its carpets, but scarcely one is now obtainable. Industry, indeed, is at present unknown on the spot where thousands of busy fingers were daily occupied in weaving those beautiful and justly famed specimens of Persian workmanship. The causes of this lamentable decline of the trade and the arts have been already specified; it remains only to notice that the better sorts of piece goods and other European manufactures find their way here from Tabriz, and the refuse of the Baghdad markets is also imported by the poorer dealers, when the bazars of that city are overstocked. Tabriz is, however, the chief place from whence its imports are derived. The town was formerly girt by a strong wall, that now exposes large gaps through which a squadron of horse might traverse the whole range of its streets, rendering the gates of the city a dead letter, and merely used from habit alone. West of the town stands the Kubristan, or grave-yard, containing some well-kept and tolerably well-constructed tombs, the mausoleums

of the holy Mustaheds of the place. The Necropolis, indeed, wears an air of cleanliness and order quite foreign to the city of the living, where filth, squalor, and misery, reign supreme. I here first remarked the singular custom of describing on the tombstone the sex and profession of the defunct by various devices, which, in a subsequent age, may excite as great an interest as the hieroglyphics of Egypt. The grave of a female is shown by a double comb , that of a male by a single one . The trade or calling of the individual is known by some suitable weapon of war, or implement of husbandry. A few of the tombs were also decorated with the braided tresses of a mourning wife, or more probably of some betrothed maiden—affection's tribute to the departed dead. This I afterwards observed in the neighbourhood of Behistan and Sermaj. The custom* is a remarkable one, and originated no doubt in a very remote age.

* Herodotus, book iv. art. 26, alludes to this custom of removing the hair and offering it at the sacrifices among the Issedones. On the death of a parent, and at the festivals termed Τενεσια and Νεμεσια by the Greeks, "they placed locks of hair on the tombs."

The Πλοκαμος πενθητηριος of Æschylus, as noted in the Greek and Roman Antiquities, evidently distinguishes this peculiar observance as a very ancient one. Major Rawlinson, in his Journey into Khuzistan (Royal Geographical Journal, pp. 53 and 58 of vol. ix. part 1), remarks at some length on the same usages existing among the tribes of Luristan; and from personal observation I can state that it prevails in a more or less degree throughout the Arab tribes from the borders of the Mediterranean to the confines of Persia as far south as the Persian Gulf. On one occasion I was an eye-witness of the deposition of this species of tribute to the dead. In 1842 I had ascended a remarkable mound for the purpose of observing with a theodolite some conspicuous ruins on the banks of the Euphrates. The place was a lonely and quiet spot, on the open Desert, and, with the exception of a servant, I thought I was the only human being in the vicinity. I was astonished, however, at hearing the low sobs and plaintive moans of a female, and on looking through my telescope observed, at the distance of about 200 yards from me, a young Arab girl, prostrated on a newly made grave, apparently in the extremity of grief. Had she seen me she would undoubtedly have fled, but her grief absorbed all other reflections, and I crouched under the lee of the mound to watch her painful but interesting task. She repeatedly embraced the cold earth, even laying her lips to the humid soil, and uttering occasionally the most piercing shrieks, at the same time wringing her hands and beating her breast in every attitude of affliction and woe. Violent grief is not of long duration, and her paroxysms soon subsided into a sullen despondency. With tears streaming from her fine black eyes, she afterwards proceeded to disengage every braided tress that adorned her head, by means of a reaping hook which is used in these parts to cut grass for the cattle, and then, binding them carefully to a stick that she had brought for the purpose, she forced it with her tiny hands, as far as her strength would permit, into the earth, at the head of the grave. Silently, and with measured steps, she then took the road for the tents of her tribe, which must have been at a considerable distance, for I watched her form upon the Desert with my glass as long as she remained in view. It was a sight I shall scarcely forget—a lone girl in sad converse with the "sweet dead," on the trackless Desert, canopied by the clear blue sky, occasioned reflections prejudicial to the pomps and unseemly ceremonies attending the obsequies of the dead in our civilized Europe.

In Leviticus xix. 27, "the corners of the head" is thought by some to refer to this practice of cutting off the hair: the above rendering, as given in the English Bible, signifies in Hebrew "cutting off of the extremities of the hair." It was in practice among the Gentiles

Though the town of Kirmanshah possesses in itself scarcely a single feature of interest, the neighbourhood must be viewed as a locality abounding in antiquarian riches. The extensive plain on which it is situated, joining that of Mahidasht to the west, extends also some distance to the east beyond the storied rock of Behistan. To the north, the bold and serrated crags of a spur from the great Shahu range, sur-

when mourning for the dead, and is condemned as an abomination. See remarks on Leviticus appended to the Analytical Bible. The representation of a horse's head, occasionally met with on the gravestones in this part of Persia, would refer us for its origin to a very early period. The ancient Greeks used it as a funeral emblem, and signified "death is but a journey." See Greek and Roman Antiquities, under the head "Funus."

The funeral processions in Turkey and Persia are still attended by hired mourners. This is probably a vestige also of ancient Greek usages. These Θρηνωδοι of antiquity excel the really bereaved relations and friends of the deceased in their wailing and lamentations.

While on the subject of funeral observances, I may as well state that when employed on the Upper Euphrates, the sacrilegious hands of my companions exhumed, from a very ancient sepulchre, contiguous to the old fortress of Halebi, the mummied remains of its long-buried occupant: one hand and a foot, with the leg-bone, were entire, and I think, from their diminutiveness, must have been those of a woman, and, moreover, a woman of rank, for the face had been originally covered with a gold mask. The upper part of the tomb was very ruinous, and this may account for the other parts of the body having mouldered away. It was built of brick, with a cupola-shaped roof. A part of a coffin, elaborately painted, but too much disfigured to distinguish any device, with some shreds of apparel, were obtained, in addition to the mask of gold. This latter was of the purest metal, pliable, and as clean as on the day it was first devoted to the service of the dead. It was impressed with the features of the deceased, and weighed, if I remember right, about forty Ghaze,—a gold sum equivalent to £8 sterling, but its real value, from its purity, may have been about one-fourth more. I cannot find any notice of this custom as pertaining to the burial rites of any of the nations of antiquity, and accordingly presume that it may have represented, or was substituted for, the Δανακη of the Greeks, and destined as a votive offering for the guardians of the Acheron and Styx. It is now, I believe, in the possession of the East India Company. The body had evidently undergone the usual preparations previous to interment, which the ancient authors describe as in vogue among the Egyptians. The nails and cuticle of the extremities were perfect, and a bituminous substance was observed on fragments of the swathing: its peculiar odour was also manifest. On opening the tomb, three other sepulchres of similar construction stood at a short distance from the spot on which this monument is erected. Time, or the desecrating hand of the Arab, had already despoiled these previous to our visit. The natives, however, informed us that a jewelled dagger was found on a body excavated from one of them a few years ago. The spot is one of much interest as connected with Tadmor or Palmyra. The construction of the fortresses of Halebi and Zelibi (their present names) has been assigned to the Palmyrean Queen Zenobia, who, after her defeat by Aurelian, is represented to have fled to this spot, and to have been captured while crossing the Euphrates.

These fortresses, erected on either hand of the Euphrates, command the gorge through which the river forces itself in its descent to the alluvial plains of Babylonia, and constitute a very strong position. The elevation of the citadel of Halebi is 316 feet above the river. It is in latitude 35° 42′ N., and lies in the direct road between Palmyra and Nisibin, and in times long prior to the Zenobian era may even have held a more conspicuous place, as a central *entrepôt* between the port of Tyre and the NE. provinces of Assyria.

I had just finished the above note, when a letter was placed in my hands by an inhabitant of Anah, a small town on the Euphrates. A portion of it is applicable to the above subject, and as I have never heard of a similar exhumation, during my service in these countries, I venture

mounted by the peak of Parrow, confine its breadth to a distance of about six miles, while its length may be reckoned as exceeding thirty. The waters of the Kara-Su, flowing from the NW., are met by those of the Gamasab, derived from a north-easterly source, a few miles SE. of the town. These form the main source of the Kerkha (Choaspes). Over this vast plain are scattered the remnants of antique edifices, whose very names are lost in obscurity. Headless columns and baseless capitals, of an unknown and unique order, border the main road, which passes through the plain. These serve to attract and excite the attention of the traveller, who is soon rewarded for his past toils by the sight of monuments of a more absorbing interest. I allude to the Taki-Bostan sculptures, and the engraved tablets of Darius at Behistan. The latter, the most elaborate and extensive in Persia, in connection with the cuneiform inscriptions of Persepolis, of Hamadan, and of Van, have already awakened the intellectual repose of enlightened orientalists, and will shortly incite, through the talents and acumen of my fellow-traveller, an aditional interest over the whole of the European world. This locality, indeed, though comprising but a comparatively small portion of the large expanse now open to research, offers in itself many powerful stimuli to engage the active mind of the antiquarian and geographer.

Our stay at Kirmanshah was felt as a seasonable relief after the fatigues of the late journey, and while Major Rawlinson's time was devoted to official pursuits, mine was sufficiently occupied in the prosecution of the duties of the surveyor. Our little chronometer, indeed, required all my care, for it now begins to be sensibly affected by the change of temperature and the perturbations that it had sustained during the last few days of mountain travelling. This, however, is of no consequence, as we are compelled to remain in this vicinity until communications be received from Teheran. In the interval, a new rate will be obtained, and a visit

to transcribe the extract rendered into English :—" Some workmen were lately digging under a part of the old castle at Anah, and in the course of their labours they disinterred an old box, or coffin. It was found to contain a smaller case, which, on being opened, exposed the remains of some wild or rare bird, swathed up in linen."

This rare bird we may therefore presume is a vestige of Egyptian adoration; either the eagle, ibis, or a hawk, and will, I think, tend to show that Anah was the abode of an Egyptian colony. The sacred birds and animals of the Egyptians were regarded with peculiar awe, and the rites and ceremonies observed on their death partook of a religious character: their bodies were embalmed and enclosed in consecrated coffins. See Herodotus, book ii. Diod. Sic. i. chaps. 6 and 7.

The many substantial works met with in the bed of the Euphrates, and on the islands contiguous to the present town of Anah, would claim them to be regarded as the relics of a remote age. But for the etymology of the present name we must, I think, refer to the Greek Αναθυω, which I deem strictly applicable to the locality from the many rapids formed by a number of rocky islands, and numerous artificial obstructions, occasioning at all times an impetuous and roaring torrent. To the Romans it was known by the name of Anathe.

to Behistan, and return to this place again, will afford a triple test of its performances. The detail of the journey hitherto has been daily added to the map while fresh in the memory, and it is satisfactory to state that the minutiæ of the Road-book have, in the aggregate, been corroborated by our astronomical observations.

Sept. 4th.—The ladders for the ascent of the Behistan cliffs being ready, we left Kirmanshah at 5.5 A. M., on a delightfully cool morning. Proceeded due east, or 90°, until 6.5, when the Kara-Su was crossed by a substantial bridge called Puli Shah. Continued in the same direction over a fine plain, having the Parrow range of hills at a distance of four miles to the left of the road. Passed by several villages of cultivators, and exchanged greetings with some caravans of pilgrims *en route* from the capital to Baghdad and Kerbela. At 9 A. M. the road inclined a little more northerly towards the hills over the site of some ancient buildings whose alignments can now scarcely be traced; but the numerous fragments of columns, cut stones, pedestals, and capitals, of a Sassanian design, attest it as a ruin of that age.

From 9.45 to 10.15, the road turned to the north in a gradual curve as we rounded the termination of the Parrow range, known by the appellation of the Rock of Behistan. At the latter time the Caravanserai, or Khan* of the same name, received us as its tenants for some days to come. Its murky vaults, redolent of every effluvium, smoke-begrimed and covered with pendent bats, afford a striking contrast to the marble hall and fountained apartment of our abode of yesterday: and yet, after all, this is the life that charms. The real traveller, indeed, knows neither inconvenience nor discomfort; he sits down to his scanty fare of an onion, cheese, and pure water, with more zest than awaits the epicure at a sumptuous repast. So long as he keeps his health,—which is certain unless in a very noxious climate,—he suffers neither indigestion nor *ennui*, and enjoys that quiet sleep which is only experienced after a day of active exercise both of the mind and body.†

The afternoon of this day was devoted to cleaning the sculptures and inscriptions preparatory to Major Rawlinson's revising his former labours. The ladders had been carefully fixed, and the requisite ropes for assisting the ascent up the steep face of the lower portion of the scarp properly adjusted, beforehand. In about a quarter of an hour, not without sundry scratches and bruises, the platform at the base of the tablet was gained, and operations commenced accordingly. From this time until

* The Khan of Behistan stands in latitude 34° 22′ 35″ N., and is 2° 55′ 38″ E. of Baghdad. The variation of the needle in 1844 was 3° 44′ west.

† The incidents and danger at times attending the traveller in the east, coupled with the chase of the grisly boar or the timid hare, a stray shot at the numerous wild fowl that infest the streams, or at partridges, which abound on the mountain slopes, lend excitement to the otherwise tedious duration of the day's journey.

the 11th of the month we remained in this vicinity. The Major constantly and indefatigably employed himself, from daylight to dark, revising, restoring, and adding to his former materials. This was a work of great irksomeness and labour in the confined space he was compelled to stand in, with his body in close proximity to the heated rock and under a broiling September sun. A series of astronomical observations were daily made in the forenoons, and the afternoons were devoted to sketching the various objects of interest in the locality, and in taking the dimensions of the magnificent rock before us. To continue the journal, then, during the period of our stay here, would be both uninteresting and tedious. I will therefore attempt to describe the relics of antiquity that have of late so much occupied the attention of the orientalist and palæographer. Major Rawlinson, in his Notes on a March into Khuzistan, published in the Journal of the Royal Geographical Society, has sufficiently established the identity of this place with the Baghistan of Diodorus Siculus,* and with the various appellations it has been subsequently known by. No one who has ever visited the spot could fail, indeed, to recognise it after reading the accurate description of that author in his history of the march of Semiramis from Babylon to Ecbatana. D'Anville, I believe, was the first to assign a position to it on our maps,† and Major Rawlinson has since corroborated, by etymological evidence, almost every site in the adjacent district, whose nomenclatures had either been partially corrupted, or entirely lost, in the lapse of ages.

Many travellers of various nations have contemplated, with a wistful gaze, these elevated petral records of a prior age, from the plain below, but few have had the energy to ascend for a closer scrutiny. Many surmises as to the nature and character of the work have at successive times appeared from the pen of different individuals,‡ but the best

* Book ii. chap. 1. It is somewhat remarkable that in this notice, as well as in a subsequent one (book xvii. chap. 11) of Bagistan, Diodorus should make no mention of these inscriptions of Darius, while he dwells with a minuteness of detail on the local features of the country, its pleasure gardens, fountains, and palaces. Arrian, too, in his compiled history of Alexander, passes by this celebrated spot with a mortifying description of the Nysean pastures only: and Herodotus, so generally minute in his geographical and historical details, himself a traveller and recorder of the deeds of most of the monarchs of Media and Persia, has on this subject maintained a profound silence, at a time, too, when the work was comparatively recent.

† D'Anville, book ii. chap. 5, calls it Bagistana. Its other appellations were Baptan, Bisitun, Be-Situn, Bostan, and Bapatan; the first and last, according to Major Rawlinson, evidently applying to the whole district of Ecbatana. Bahistan is now given, by the latter authority, as its proper orthography.

‡ The quaint old Tavernier, in book iii. chap. 5 of his travels, evidently alludes to these sculptures. He says—"Between Sahanah (Sehnah) and Polisha (Puli-Shah) you leave the only high mountain in all the road to the north. It is steep, and straight as a wall; and as high as you can see, you may observe the figures of men clad like priests, with censors in their hands, and yet, neither can the natives tell you, nor any person imagine, the meaning of

representation is by the late Sir Robert Ker Porter, who, as a faithful artist, gives, with few immaterial exceptions, a very correct delineation of the sculptured group. His ingenious but conjectural ideas in illustration of the design have, however, of late been overthrown by unwearied application and research; and the results of this close study, improved, digested, and matured, by the present visit, will, embodied in a work, ere long be confided to the discernment of the public, by its talented author.

The arid and bare range of Parrow, bounding the Kirmanshah plain to the north, terminates abruptly at Behistan, about twenty-two miles east of that city. To the east is the extensive and fertile plain of Chambatan, with the winding stream of Gamasab, pursuing a SSW. course through it into the regions of Luristan. Out of this plain the rock of Behistan rises precipitously to an apparent height of 2,000 feet,* exhibiting a bold outline of naked crags, unrelieved by a single trace of vegetation. The scene, therefore, at present is sufficiently striking; and in bygone times, when the rich plains were carpeted with a sea of waving foliage, intermingled here and there with the summer retreats of the Median nobles, with the stately palaces and sparkling fountains of the Babylonian queen, or with the more recent edifices of Sassanian dynasties, must have worn an aspect of impressive grandeur. Bordering the road that led to the royal cities on either hand, it could not fail to attract the attention of the many proud monarchs that have encamped with their armies in the adjacent plains. We learn from scripture,† as well as from profane history, the fondness of the early Persian kings for cursive records, whereon were inscribed, not only the acts and glories of the reign, but even the imperial sayings of adulated majesty. That this custom was prevalent at the court of Darius Hystaspes, we can hardly doubt, and, moreover, may infer that this monarch, from the great events that transpired during his dominion, possessed an ardent but excusable desire for a more posthumous celebrity. He must have foreseen that the frail texture of the Διφθεραι Βασιλικαι ‡ was ill calculated to perpetuate

those sculptures. At the foot of the rock runs a river, over which there is a bridge of stone." Tavernier travelled in Persia in 1663, and is probably the first European that notices this interesting design. Later travellers, in the exuberance of their fancies, have discovered in the figures a likeness to the twelve apostles.

* Mount Bagistan is described by Diodorus Siculus (book ii. chap. 1) as dedicated to Jupiter. He gives its height as seventeen furlongs, by which I presume is meant the distance to its summit by the road. Major Rawlinson has since ascertained its real height by trigonometrical measurements as 3,807 feet above the plain. It certainly appears of less elevation.

† The books of Esther, Ezra, and Nehemiah, teem with references to the Chronicles of the Persian kings; and Herodotus, Diodorus Siculus, and Ctesias frequently mention them. The latter lived a long time at the Persian court, and had no doubt frequent opportunities of witnessing this partiality for recording.

‡ Ctesias. They were made of leather or parchment.

his character and achievements, and must, therefore, have determined on the execution of a more durable work, which should convey to his successors, and to the nation at large, not only his pedigree, his conquests, and his virtues, but, by his injunctions and precepts, remind them of the former glory of their ancestors, and the necessity of a strict adherence to the national faith.

For the observation of all, a more appropriate spot could scarcely have been selected than the Rock of Behistan, where this petral record now exists, in the same state, and in almost the same degree of perfection, as when first executed. About 300 feet above the *débris*, at the foot of the mountain, and overlooking the plain, the face of the rock has been chiselled so as to expose a smooth surface for the reception of the work. This surface may be divided into four tablets. The main one, devoted to the sculptures illustrative of the writing beneath them, is the largest, and is thirty feet in length and twenty-six feet high. Of this, the sculptured slab, with a pedestal of eleven inches, occupies fourteen feet; the remaining portion being dedicated to the reception of the archaic legend, written on four columns in the Persepolitan cuneiform character. Each of these columns, containing ninety-six lines, is six feet and four inches in breadth; and a supplementary half column, now much defaced, appears to have been subsequently appended. Immediately to the left of these, as they are viewed, a projecting slab, twenty-one feet in length, exhibits in three columns a transcript in the more elaborate Median tongue. Their height is the same, but in breadth they exceed by six inches the dimensions of the Persepolitan columns. Immediately above the Median tablet,—with its base, indeed, resting on and slightly projecting over it,—is a semi-isolated rock inclining inwards towards the hill. This has been scarped on its face and sides, and bears a legend in the still more complicated Babylonian cuneiform,—in all probability a translation in that language of the original text. To the right of the main tablet the hill has also been smoothened for a further space of six feet, and is covered with characters, but so much destroyed, either by time or the action of water, that it is even difficult to distinguish the nature of the character. I am induced to believe, however, that this portion of the work may be either a record of a subsequent age, or that the same pains had not been taken for the preservation of it as were bestowed on the Persepolitan and Median designs. In the latter the rock bears evidence of a careful preparation, and has undergone the process of varnishing* before the engraver commenced his labours. This

* The art of varnishing and painting on walls, and preparing slabs for the reception of designs, was well known to the ancients. Vitruvius and Pliny (see Greek and Roman Antiquities) describe the manner of preparing these slabs, and I have no doubt the Behistan scarp underwent the same process. They first covered the wall with a layer of ordinary plaster, over

varnish is composed of a hard, flinty, and very durable substance, and, where not destroyed by the constant trituration of rain-water finding its way down from the heights above, is as perfect and smooth as the day it was laid on. The natural rock, indeed, is not difficult to cut, but the prepared portion resisted a steel chisel that we brought with us, with which we could only succeed in chipping the surface. The great depth and well-defined outline of the letters exhibit considerable skill on the part of the engraver. They are one and a quarter inch in length.

The sculptures comprise a group of fourteen figures, and are no doubt intended to elucidate the text below them. If we except the central and more elevated figure, which may represent the supreme Ormazd, and those of Darius and his two attendants, to the left of the design, we may pronounce the rest of the group as deficient in artistical beauty, and, indeed, show but a hieratic style.* Their forms are diminutive, stiff, and ill-defined; and their habiliments, though well marked, betray no elegance of drapery whatever: the limbs are coarse and misshapen, and their countenances devoid either of animation or expression. Nine of these figures are standing, and are attached to each other by a long cord passing around their necks. Their hands are bound behind them. The badness of design, and dwarf-like forms, in this portion of the sculptures, I presume, is intentional, to denote the inferior and degrading position of the captives,—the metamorphosis serving to convey to the minds of the ignorant and uninitiated the more exalted position and greater virtues of the conqueror, who is represented by a commanding stature, in the attitude of a victor, with his left foot on the

which, when dry, were successively added three other layers of a finer quality, mixed with sand. On this again three more layers, made of a composition of chalk and marble-dust, were laid, each succeeding coat being of finer quality than the preceding. They excelled, too, in the art of painting and encaustic varnishing; and to this may be attributed the fine preservation of the Tak-i-Bostan sculptures (which bear at this time a very high polish) and the paintings met with on the walls of Herculaneum and Pompeii, on the rock-tombs of the Libyan Cyrene, and on the recent discoveries made by M. Botta at Khorsabad. For the antiquity of wall-painting we must refer to Ezekiel, who wrote some 600 years before Christ; and it is not a little singular that his words should be verified at the present day by the exhumation of Assyrian relics, and the opening of Assyrian temples. In chap. xxiii. 14, he describes these paintings:—"Men pourtrayed upon the wall, the images of the Chaldeans pourtrayed with vermilion, girded with girdles upon their loins, exceeding in dyed attire upon their heads, all of them princes to look to, after the manner of the Babylonians of Chaldea, the land of their nativity."

Sir Humphrey Davy analysed some of the "frit" found on ancient walls, and describes it as of a composition resembling stone, a species of artificial *lapis lazuli*, the colouring matter of which is inherent in a hard siliceous stone.

See Greek and Roman Antiquities—Colour and Painting.

* The earliest sculptures and carvings were thus denominated, when clumsy figures represented the deities and other sacred emblems.

body of a prostrate foe, the tenth of the captive group. The form of the Great Darius is portrayed by a superior execution. His features are well developed, and exhibit that energy and determination of character for which he was celebrated. A degree of finish and study pervade the figure of the monarch, who is singularly enough represented with bare feet, while his captives and followers are either sandal-clad or wear a coarse species of shoes. His head, surmounted by the diadem, displays, after the fashion of the day, a carefully-curled mop of bushy hair, extending nearly to the shoulders. The upper lip, too, is adorned with an elegant moustache, and the beard, fantastically disposed in stiff and separately curved tresses, adds much to the dignity of his appearance. The left hand grasps the bow, the symbol of regal power; while the right is elevated and extended towards the prisoners, in the attitude of angry expostulation. The wrists are adorned with bracelets, and a girdle or zone, terminating in two tassels, encircles the waist of the monarch, and serves to bind the flowing tunic that he is habited in. A loose vest or jacket, with large open sleeves, completes his attire. The attendant guards, in their dress, differ but little from the monarch. They have sandals on their feet, and the head is covered with a circular cap only. The one nearest to majesty also bears the regal bow, and a well-stocked quiver hangs pendent at his back. The furthest removed from the king differs from the last only in being armed with a spear, which is held upright by both hands in front, the shaft resting on the ground.

The aërial figure which hovers over the centre of the group would seem to represent the Supreme Being; and this idea is in a measure confirmed by its also presiding over the sculptured monuments of antiquity met with at Persepolis. As the old Persian records always contained an invocation to the deity, so it would appear that their statuary tablets likewise required to be hallowed by the introduction of the Omniscient Creator. Some writers have imagined that the figure merely denoted the spirit of a departed monarch, and was symbolical of the immaterial substance of man. Others have denominated it the "Ferooher"* of the Zend-Avesta; the soul or spirit that presided over all the royal acts—a constant guardian over the regal head; an emblem of the favouritism of Ormazd—a type of the anointed of the Lord.

From its elevated and exact central position on the slab at Behistan, I think, however, we may conclude it to be the effigy of the Creator himself.

It is a half-length figure, clothed with the short vest similar to that of the king, from which depends a long flowing and plaited robe, spread out fan-wise at its skirts; a zone or girdle, terminating in snake-like ends on either side, confines this at the waist. It is probably the sacred fillet

* Heeren's Researches, vol. i. pp. 205, 206.

still worn by all ranks of existing Gabres, in Persia, and by the Parsees on the shores of Western India. The priests of the latter wear also a plaited robe in some respects similar to that described above: a circular ring encompasses the figure in the form of a halo; this has two arms, one on either side, which may represent wings, and would seem figuratively to imply the world and its Omnipresent Founder.

In the left hand is grasped a circle, the symbol either of eternity or dominion; while the right, with the arm bent and fingers extended, points upwards, and perhaps thus typically expresses a future state of existence.

The features of this interesting figure are, however, sadly mutilated, and can scarcely be recognised, nor can the head-dress that it wore be described. The prostrate figure at the feet of the king, and the first of the erect captives, are in the same deplorable condition. Enough, however, remains of the first standing figure to denote a difference of dress from the rest of the captives behind him. He is habited in the long robe, probably of the priesthood, which extends to his ankles. The next has a shorter robe, reaching only to the knees. The third has a similar short tunic, and the forth a longer garment extending to the calf of the leg. Each alternate figure then to the end of the string is clothed in the dress of the second preceding him; the last being distinguished only by a high conical cap, similar to that worn by the Persians of the present day. This last figure appears to have been subsequently added to the group, and is carved somewhat deeper into the rock, in a recess appropriated for the purpose.

Scattered about on the face of the sculptured slab, but generally above the head of the figures to whom they apply, are legends commemorative of their names and pedigrees, the names of the province which they misgoverned, or the Satrapies over which they misruled. These are also in the Persepolitan cuneiform, with their Medic equivalents. The third standing figure is, however, an exception to the rule, for his descriptive legend is inscribed on the skirt of his garment, and partly on the rock adjoining him. The Babylonian correspondents to these several legends are engraved on the pedestal which the sculptures occupy, thus forming one great whole, which, for elaborateness of conception and skill in design, is scarcely surpassed, or even equalled, by any single work of art in all Persia, for it contains, in addition to the sculptures, nearly a thousand lines of complicated writing.

Both Herodotus and Diodorus Siculus maintain that the Egyptians possessed two forms of writing, and other authors add to them a third* form. These are classed as the epistolatory, the sacerdotal, and the hieroglyphic. The latter, we are aware, was used as a lapidary character,

* See note by Larcher, in the English Translation of Herodotus, Euterpe 36.

and in this respect we may assimilate to it the cuneated letters of the Babylonians, Assyrians, and Persians. The very form, indeed, would cause this species of writing to be adopted by the early engravers as the most easy and simple, and in this respect the primitive printers of England followed in their wake, for the angular form of the old English letters was the best adapted either for the speedy formation of types or for the trade of the stone-cutter; and as subsequent improvement in the arts, combining greater skill and dexterity of hand, enabled the moderns to employ the more elegant Roman, or the still more graceful Italic characters for the purposes of their vocation, so it may have been with the ancient races of Babylonia and Media, who, on the adoption of a new style, may have lost imperceptibly all traces of the old.* It is hardly possible to suppose, from its formation, that the cuneiform could have been used in a cursive form in the numerous archives of the Persian kingdom, and we may, therefore, presume, that the courtly documents styled by Ctesias Διφθεραι Βασιλικαι were written in a character more suitable to an amanuensis, and answering to that employed on the epistolatory correspondence of Egypt.

Be this as it may, however, a few months will disclose the at present hidden meaning of this extensive legend; and the ray that has just dawned on literature at Behistan may yet illumine the dark and mysterious pall that enshrouds the early history of the world. The excavated relics from the Assyrian cities of Khorsabad and Nimroud are already beginning to unfold to the master mind that wrought out the purport of these fragments of Darius Hystaspes, a narrative of events connected with that era; and the extensive plains of Babylonia and Susiana yet contain entombed in their numerous mounds a vast heap of archaic legends that would further enrich the materials of the historian.

The portion of these demi-reliefs of Darius that partakes not of the hieratic style of sculpture may be considered as a good specimen of the age in which he lived. The art at that time in Greece† began to assume a degree of perfection that had been but partially developed in the previous century, and which had been kept back by a too strict adherence to conventional forms. As we possess no information relative

* Within the last twenty years the old English writing has been in a great measure abolished in school exercises for more useful attainments, and now, I believe, is seldom used, except to grace a deed of settlement, a tomb-stone, or a power of attorney. Were England overrun with successive revolutions such as once shook the former mighty empires of the east, in which the sword, for centuries, took the place of the pen, and in which all cursive records were either destroyed or perished in the ruins of the public edifices, it is not improbable, indeed, that the traces of this, our primitive character, would, like the cuneiform, be found only on our lapidary tablets, that even now require an "Old Mortality" to restore them.

† Smith's Greek and Roman Antiquities. See Statuary of II. Period, between 50th and 75th Olympiads, 580 to 480 B. C.

to the advancement of this art among the Medes and Persians, we must naturally ascribe the execution of the sculptured group to the ingenuity of the Grecian artists that may have been either captured in war or have been in search of iconic employment in the adjacent territories.

The forms of Darius and his attendant guards display, indeed, an artistic merit that is wanting in the more massive sculptures of Nimroud and Khorsabad, but are deficient in grace and execution when compared with the bas-reliefs composing the zoological tableaux met with on the walls of the Tak-i-Bostan. A peculiar care has been evidently exercised in the performance of the whole work, for where the rock has exhibited fissures or decay, a piece has been ingeniously substituted. In the figure of the king, one of these pieces is observed as morticed into the right shoulder; and in the body of the last of his attendants a similar piece has been abstracted, leaving the lead wherewith it was clamped still attached to the bottom and sides of the vacuity. A sacrilegious desire to ascertain if any coins existed in the person of the monarch induced me to attempt the removal of the piece inserted in the shoulder. I had reached the summit of two ladders, which were lashed together, and planted nearly perpendicular against the face of the rock, and was busily employed with the hammer and chisel on my desecrating task. Both hands were thus occupied. An unfair blow, delivered in my awkward position, caused the chisel to slip, and another instant would have consigned me to the depths below had I not fortunately grasped the full bushy wig of the injured king: even as it was, a sickness assailed me that left but little strength to descend to the platform. The thoughts of my narrow escape prevented for some time a return to equanimity; I then vowed, however, to refrain in future from such iconoclastic tendencies.

This work of art is situated about a quarter of a mile north of the Caravanserai of Behistan: a shoulder of the mountain here projects to the eastward, forming nearly a right angle with the scarp on which the work is inscribed. This projecting crag shelters the design, in some measure, from the violent NE. winds and rain that are said to prevail from that quarter; to this, to its elevated site, and to its being left in shade after 2 P. M., I attribute its excellent preservation. Without the aid of ropes and ladders it would be a matter of serious difficulty to reach the spot, and even with these aids no weak-headed or nervous person should attempt the ascent. Above the inscription the mountain bears the same precipitous character to its summit. The wild goat is occasionally seen, with a precarious footing, carefully sauntering along its crags; and the mountaineer, by lying in wait on paths known only to himself, sometimes succeeds in securing a victim.

At the base of the mountain, on the projecting angle before alluded to, and close to a copious spring* which issues from the hill, and irrigates a part of the neighbouring plain, once stood a colossal group of figures executed in alto-relievo. They are, however, so much mutilated by the despoiler Time, or by the desecrating Arab, that nothing but a faint outline is now distinguishable. The centre of the tablet has even been barbarously cut away, to expose a smooth surface for the reception of an Arabic inscription celebrating the virtues and liberality of one Sheikh Ali Khan, the founder of the Caravanserai† of Behistan. The tablet bears, too, a Greek record, of which but a few unconnected words are now traceable. The name of ΓΩΤΑΡΣΗC is, however, distinct enough, and Major Rawlinson recognises other words which are given in his Notes on a March into Khuzistan.‡ It would be difficult to pronounce on the nature of this sculpture, from the deplorable state it is now in. It is probably a relic of the times of the Parthian Gotarzes, and from the superior elegance of the forms of the figures, whose contour is just traceable in the colossal group, I am inclined to assign its execution to a more recent date than that of Darius Hystaspes. Its prominent situation and easiness of approach will sufficiently account for its effaced appearance, without attributing to it a greater antiquity. It may, however, if we make a due allowance for oriental hyperbole, mark the position on which Semiramis caused herself and a hundred of her guards to be represented ;§ but to this representation, if it really existed, I think we must appoint a contiguous site, which I will presently mention.

On the *débris* of the mountain, about 300 yards further to the north, a singular isolated stone, of a triangular shape, was discovered ; this I believe has never before been noticed. It bears, carved on its sides, in basso-relievo, a rough but well-defined design of three figures a little under the natural size. The principal bas-relief exposes a front view of a clumsy human form, with the right arm extended, the hand grasping a globe or ball,‖ resting on the summit of an "incus" shaped block. The

* Diodorus Siculus, book ii. chap. 1, notices this spring :—"Semiramis marched with a great army into Media and encamped near a mountain called Bagistan : there she made a garden, twelve furlongs in compass. It was in a plain champaign country, and had a great fountain in it, which watered the whole garden."

† The erection of these edifices, for the accommodation of the traveller and reception of merchandise, can be traced to a very remote antiquity. Herodotus styles them Καταλυσεις, and Mahomed, in the Koran, recommends the establishment of them as a pious work. See Heeren, vol. i. p. 31.

‡ Journal Royal Geographical Society, vol. ix. part i. p. 114.

§ Diodorus Siculus, book ii. chap. 1, states :—"She cut out a piece of the lower part of the rock, and caused her own image to be carved upon it, and a hundred of her guards, that were lanceteers, standing round about her."

The tablet under reference could not have contained above seven figures.

‖ Perhaps symbolical of Mithra.

left arm is supported close to the body, and bears in the hand a cup-shaped utensil, probably representing the Patera of the sacrifices, or the Havan of the Zend-Avesta, and the first named may, therefore, denote the Ara of the Zoroastrian doctrines; a second figure on the face of the stone nearest the mountain represents a foot-soldier in the act of advancing with a bow in his hand, executed in the same clumsy style; the third is so much worn by time that no peculiarity is distinguishable.

This stone, on the whole, is a venerable vestige of a former age: any attempt to assign a date to it would, however, be but an idle speculation.

Immediately above the Khan of Behistan, and about a quarter of a mile separated from the tablets of Darius, a work of greater magnitude than any of those described has evidently been designed. The face of the hill, for 200 feet in length and about 60 in height, has been scarped to some depth, and retains at the present day a freshness of appearance ill according with the time that has elapsed since the days of Khusru Parviz.* This is attributable, however, to its sheltered position. Major Rawlinson supposes the excavated scarp was intended to receive, or to form, the back wall of a temple or palace; and the numerous aligned slabs, of a massive character, that lie in disordered array on the slope at the foot of the hill would confirm the supposition, and at the same time mark it as an unfinished structure that, from some cause, had met with interruption a short time after the design was commenced. The façade of the building was to have been approached from the plain by a terraced way built on the *débris* at the base of the mountain, and a few well-executed capitals at the back of the Khan, of an oriental order, attest it as a work of a Sassanian age. These capitals have, carved on two of their sides, the figures of a male and female, whose heads are surrounded by a halo-like ring, and may represent Khusru Parviz and his beautiful Shirin. The other sides bear, in graceful foliation, the elegant-shaped design of a Thyrsus, and are wrought in a coarse species of marble. In many parts, however, of the more recent work, we can trace, by its blackened and worn appearance, the chisel of an anterior period; and it is to this circumstance, and to the visible remains of the Φαλλοι † that lie extended in broken fragments in front of the

* Royal Geographical Journal, vol. ix. part 1, 1839.

† Diodorus Siculus, book iv. chap. 1, described the divine honours that Isis caused to be paid to the unfound portion of Osiris's mutilated remains after his massacre by the Titans. The Greeks afterwards imitated the Egyptians in this form of worship, and perhaps excelled them in the debaucheries prescribed for the Φαλλικ entertainments; and at the present time, on the Huli festivals of the Hindoos, instead of the dregs of wine, a more filthy composition is bespattered over the persons and dress of those celebrating the orgies, and even on those unconnected with this singular creed.

The Greek Φαλλος and Latin *Phallus* appear to be cognates of the Arabic فعل Fahl, signifying either "vir," "virilis," or "virilitas," and equivalent to the generative Lingam of the Hindoo mythology.

scarp, we may identify it not only as the spot on which Semiramis established the worship of the fructifying principle as instituted by Isis, but as the actual site of the tablet on which she caused her own likeness, and those of a hundred of her guards,* to be portrayed by the statuary. In the time of the Isidore of Charax, the remains of a magnificent palace,† probably a memorial of the visit of the Babylonian queen, still existed; but had been converted into a temple dedicated to Anaitis,‡—a temple in all respects appropriate, with the emblems of fecundity around. We may presume that, on the spread of the Zoroastrian doctrines, this temple was either destroyed or fell into decay; but that the representatives of the lost member of Osiris remained entire until a much later period, we have evidence of in a work of a comparatively late oriental writer.§ They are, indeed, at present on the spot; and on a minute examination which we made, the pedestals, and superior parts of the columns corresponding to them, could be distinctly traced.‖ Some of them are of considerable magnitude, and not only indisputably, I think, identify the Bagistan of Diodorus Siculus with the modern Behistan, but at the same time serve to verify the descriptive evidences of Isidore and of Zakariya Kazvini. There can be but little doubt, too, of the foundation of the temple of Anaitis having served for the base of the contemplated structure of Khusru Parviz; and the deeper excavation of the scarp for the back of the building, as described by Major Rawlinson, will sufficiently account for the obliteration of the sculptures and inscription of the celebrated Semiramis.

The antiquities pertaining to the "Storied Rock" have now been described, but vestiges of a Sassanian age abound in the plain of Chamabatan and its neighbourhood. Immediately opposite to the tablets of Darius, the piers and buttresses of an ancient bridge, termed the Puli Khusru, occupy the present bed of the Gamasab, which, to be crossed, has now to be forded,—a matter of no small difficulty when the river is swollen by its periodical supplies from rain, and from the melting of the snow on the adjacent mountains. From the bridge, an hour's ride through rich rice-plantations and melon-beds conducts to a mound of ruin, whose surface is covered with hewn stones, and the fragments of

* Diod. Sic. book ii. chap. 1.

† Note from Isidore, Major Rawlinson's Journal, Royal Geographical Society, vol. ix. p. 112.

‡ Virgins were consecrated to this goddess, and esteemed themselves dignified by a public prostitution! Cyrus is said to have instituted the ostentatious festivals observed in honour of Anaitis, in order the more effectually to destroy his enemies, the Sacæ, by an over-indulgence in luxuries they were unaccustomed to.

§ Zakariya Kazvini, from Notes before alluded to in Royal Geographical Journal.

‖ On a former visit to this spot, Major Rawlinson overlooked these interesting relics. See Royal Geographical Journal, vol. ix. part 1, p. 114.

pillars, denoting that some building formerly occupied the site. A short distance from the mound a large piece of white marble is shown as the Takhti-Shirin. It is about eight feet square, and the natives allege that it bears an inscription on its lower face, which is partially imbedded in the soil. This, however, is scarcely worthy of credit, for the upper surface is smoothened as if designed for some record, while the lower part, as far as we could feel by digging under it, appeared in a rough form. From its weight, we did not possess the means of overturning it, and can only surmise that it had been brought thus far on its way to Behistan, when it was abandoned from the same causes that led to the incompletion of the palace of Khusru Parviz. From this stone the Khan of Behistan bears west one Farsakh* distant; and the village of Sermaj, due south half that distance. From this spot to the village of Sermaj the plain is dotted with vestiges of substantial edifices, but, with the exception of an old fort adjoining the village, no erect portions could be traced. They lie scattered and broken in disordered masses, precluding any hope of defining the nature of the structures. The ancient fort, termed Kileh Khusru, is a well-constructed building of massive stone, erected on the slopes of a still more ancient tumulus that is enclosed within the quadrangle, and whose summit is now occupied by the miserable hovels of its present tenants. Both it and the modern village of Sermaj are situate in a secluded nook of some low undulating hills, called the Kuhi Harsin, that bound the plain of Chamabatan to the south. A few cotton-fields and a poplar grove are watered by a copious spring which here issues from the base of the undulations. The Kurdish villagers called our attention to some large slabs, which they averred were covered with written characters, but on inspection they proved to be some simple devices that had been carved on a cornice of a building.

Our labours having been brought to a close on the 10th September, the ladders were cast headlong from the rock into the plain below, to prevent mutilation of the tablets. They were shivered into a thousand pieces, and caused a shudder at the thought of a false footstep consigning one to the same fate.

September 11th.—A raw chilly morning saw us on horseback at 3.30 A. M., on our return to Kirmanshah. The beautiful star Canopus,† the

* About three and a half English miles.

† Called by the Arabs Soheyl. It gives its name also, I think, to the SSE. point of the Arabic compass, from the circumstance of the smallness of its orbit, as viewed from the Arabian latitudes, causing it to appear, on rising, in the SSE. quarter. The Arabs entertain many curious notions relative to this fixed star, and relate as a positive fact that their camels can see it reflected in water long prior to its actual appearance above the horizon of the human observer. They moreover affirm that these animals, if compelled to kneel or lie down with their faces in the direction of the star, will invariably rise and turn their posteriors to it, and this

forerunner of winter in these parts, first showed itself above our horizon on this day. As we intended to visit the celebrated arch of the Tak-i-Bostan, our road now lay more to the north than the route we had formerly traversed on our way to Behistan. Skirting the bold chain of Parrow, we arrived at the Tak-i-Bostan at 8.40 A. M., glad enough to shelter ourselves in the shade of the arch from the rays of the sun, which by this time had become somewhat oppressive.

The Tak-i-Bostan sculptures are the finest in this part of the country, and bear at the present time so high a polish, so much grace and elegance, both of design and execution, that we must ascribe them to a period long subsequent to those of Darius Hystaspes at Behistan. It is difficult, however, to assign them a correct date, but I see no reason why the traditions of the country, which attribute them to the reign of Khusru Parviz, should not be credited. This monarch, after his defeat by Bahram, fled into the Roman territories, where he no doubt became enamoured of the many works of art which that vast empire then possessed; and after his successful wars against the provinces of the then capital of the western world, we may imagine that he secured the services of the most able artists, architects, and artisans that could be met with, for the erection and decoration of his numerous palaces and other works in Persia of which he is the reputed founder. The incomplete state of some, and the entire overthrow of others of these edifices, sufficiently show that some great event suddenly occurred to stop the progress of ambition. The reign of Khusru Parviz will best accord with this event, for, while in the plenitude of his arrogance and power, the Roman armies under Heraclius suddenly overran the empire of Persia in one direction as far as the Caspian, in another to the gates of Ispahan, and requited the accumulated indignities he had heaped on Christianity by destroying every memorial of his magnificent reign. The Tak-i-Bostan has, however, escaped the general wreck, and appears to have awakened the interest of many travellers by the numerous marks which have been engraved on its walls. The barbarous mania of name-cutting has even extended thus far, and in time bids fair to erase what the hand of the despoiler had failed to accomplish. This spot has, I believe, often been described, and the sketches of Sir Robert Ker Porter are accurate representations. The foot of the hill has been excavated, in the form of an arch, to a depth of 22 feet. The height of this arch is about 30 feet,

only as long as the star remains above the horizon. I have frequently expressed my incredulity to the Bedu, and have sought of him a reason for so singular a circumstance, but have merely obtained the usual reply of the ignorant—Allahi-Alam, "God knows." I can only account for it by supposing the animal to prefer breasting the cold NW. winds, which generally prevail at this time, than to exposing his whole body to the fierce breeze, from which in the other position he is naturally sheltered in a great degree by the formation of the breast-bone occupying the space between the fore-legs when in the recumbent posture.

and its breadth 25 feet. On the left side of the arch, below its spring, an excellent bas-relief, representing a sporting scene, has been sculptured. Elephants, horses, camels, wild boars, deer, and men, are promiscuously grouped around the borders of a marsh, on which two boats are plying. The monarch occupies one of these, and is standing up with a bent bow in his hand, in the act of shooting at a retreating boar. The second boat, containing some attendant ladies, and minstrels with their instruments, serves to convey a picture of the luxury of the court. To the right of the scene, the slaughtered game, slung across backs of elephants, is being carried away from the field; and in another part, the process of flaying, preparatory to the repast, is beautifully delineated. There is, however, in the design, no regard for perspective, but men and animals are individually portrayed with a grace and action unsurpassed even at the present day. The right side of the arch bears a similar scene, but is altogether inferior to its opposite sculpture, and must have been the work either of an inferior artist or is an unfinished design of a later date. On the rock forming the back of the arch, a colossal equestrian figure, in complete armour, and armed with a long lance, stands boldly out nearly in complete relief; and above, on the pedestal forming the spring of the arch, three other figures, supposed to denote Khusru Parviz, his Queen Shirin, and the Prime Minister of the empire, are chiselled in alto-relievo. The trappings of the horse and apparel of the group are worked with a very minute detail. Two winged Victories, bearing wreaths, with long flowing drapery, guard the entrance to the arch, and display great artistic skill. Above the first-mentioned sporting scene, and in sad and striking contrast with it, the effigies of Mahomed Ali Mirza, late prince of Kirmanshah, his son, and his chief eunuch, occupy a conspicuous place. The prince is seated in the royal chair, and is crowned with a royal diadem, with the other personages in jewelled attire standing respectfully before him. To render this group the more striking, colour has been used in aid of the unskilful chisel of the modern statuary, in whose stiff and distorted forms, compared with the master style of a former age, the prince might have read a history of his country from the time of Khusru to that of Fat'Ali Shah. The uncultivated mind, however, of the modern Persian is ill-adapted to the conception of the beauties of art or of nature, and I have no doubt, therefore, that the vain and ambitious prince derived as much gratification from this paltry design as he would have done had it been executed by the hand of either a Phidias or a Praxiteles.

A few paces to the right of the Tak a smaller arch contains full-length figures of the two Shapurs: they are more rudely executed than the sculptures of Khusru Parviz. A Pehlevi inscription is attached to each. Still further to the right are three colossal forms in demi-relievo, repre-

senting Ardeshir Bebagan delivering over the sceptre of empire to his son, the left hand figure of the group personating the deity Ormazd, who is winged, and has his head surrounded by a glory. These figures are beautifully executed, and great pains appear to have been bestowed on the waving fillets that bind the head and reach to the knees. These comprise the whole of the sculptures in the immediate neighbourhood of Kirmanshah. For ingenuity of design, for skill in execution, and for labour in accomplishment, the Tak-i-Bostan antiquities may vie, I think, with any work of art in Persia.

A clear and sparkling spring gushes out from the hill at the foot of the sculptures, and, joined by others, forms a brawling rivulet of sufficient force to turn three or four mills which are erected in a contiguous hamlet. The spreading willow and stately poplar, lining its banks, also lend their beauties to the interesting locality. Irrigating that portion of the Kirmanshah plain lying between the Parrow range and the Kara-Su, the clear waters of the brook finally join with the latter in the neighbourhood of the Puli-Shah.* From the sculptures the city of Kirmanshah bears S. 38° W., distant six miles; and at half a mile, separated from them, on the road to the city, the site of a large quadrangular building is passed over. The aligned walls of this edifice are still traceable in a succession of low mounds, and their great extent would mark them as the remains of some stately palace. The longest sides face the north and south points, and may be about 800 yards long, with a breadth between them of 600 yards. A high Tappeh, or tumulus, stands at its SW. angle, probably formed by the accumulation of drift on the *débris* of some lofty tower which formerly occupied that part of the building. It bears at present the title of Shehri-Khusru,† but I could trace no vestiges of inferior buildings within the area of the outer enclosures.

A ride of one hour and twenty-five minutes, over a champaign country, and in some places through the gardens that border the banks of the Kara-su, which we forded, brought us again to the walls of Kirmanshah. On our way to the house that we formerly occupied, we visited a garden residence of the Amir. It boasts of a few fine rooms, some fountains, and a central piece of water. These were gratifying enough, but the neglect apparent in every part of Persian administration is here evident also. The want of a timely repair is manifest in its crumbling walls, and in its decayed but once superb garden and approaches. At sunset, we were again within the walls of our former dwelling, enjoying the luxury

* This name, according to Tavernier, was given to the bridge over the Kara-Su, on the high road from Kirmanshah to Hamadan. It signifies "Bridge of the kings," but is now more generally known as the Puli Kara-Su.

† City of Khusru.

of its fountained apartment. The same bright eyes, those of the youthful but widowed owner of the mansion, are again seen peeping from an abstracted pane in the casement of the Anderun,* betokening a lively interest in the proceedings of her foreign guests; and the present of a tray of sweetmeats, surpassed in delicacy only by the compliments that accompany it, proves the interest to be as unfeigned as it is courteous. She, too, has known sorrow, and the hand of oppression is said to be even now at work to deprive her of the property left by her husband, who was known to Major Rawlinson when residing at this place during his former service in Persia; and it is hoped, through his influence, she may yet be spared the sufferings apparently in store for her.

Sept. 12th, 13th, and 14th.—During this time we were occupied in again preparing for the road. Our little chronometer was re-rated, and found to be going tolerably well, although the cold air of the hills had acted sensibly upon it. On the 13th,† the Amir made Major Rawlinson an official visit, which lasted an hour. He appears to possess neither energy nor talent, and although we several times tried to turn his conversation to topics of interest, it gradually sank again into the matter-of-fact relations of daily occurrences. It was a stupid scene, and we felt relieved when he withdrew. I believe, however, that when excited, he exhibits an energy foreign to his appearance, and that, although taciturn in public, he betrays a superior mind in the more secret councils, and possesses a shrewd cunning that is actually incumbent on, and inseparable from, the character of a Persian Satrap of the present day.

September 15th.—Left the town at 4.25 A. M., before day-dawn, to avoid the numerous beggars that infest the streets and highways in this vicinity. In their petitions they are more importunate, and less satisfied, than any mendicants that I have ever met with. I do not altogether allude to the distressed classes, but to the servants of respectable men who may have been sent with letters and congratulations, or have been attendant on their masters when paying visits on their own especial business. All imagine themselves entitled to a fee, and purposely annoy with their services for the coveted reward. New claimants appear at every turn, and render the departure both irksome and unprofitable. Our road lay in a W. by S. ¼ S. direction, over the low undulations that we had skirted on our approach to the town. At 6.7 halted for seven minutes on the eastern slope, adjoining the Mahidasht plain, and obtained the following bearings:—

Pass over the Char-Zabar, a continuation of the Kileh-Kazi range,

* Women's apartment.

† Packets were received this day, *vid* Damascus and Beyrout, from England, and notwithstanding the delays requisite for their transmission from those towns and from Baghdad, the London dates were thirty-five days old only. So much for steam communication combined with the excellent dromedary post between Beyrout and Baghdad.

leading to Harunabad, 256°; Khan of Mahidasht in a line with it; peak of Kileh-Kazi, 283°. Resumed our route at a smarter pace over the fertile plain of Mahidasht, and reached the Khan of the same name at 8.10 A. M. It stands nearly in the centre of this extensive plain, on the right bank of the small river Mirikh, whose source is about fourteen miles further to the south. The usual observations* were obtained, and the following bearings were observed from the top of the Khan:—Peak of Kileh-Kazi, 294°; ⊙ centre at setting for variation of the needle, 275°. Char-Zabar Pass, leading to Harunabad, 249°; centre of the pass on the great Shahu range, 343½°; tomb of Weis on the low undulations bordering the east side of the plain, 9½°; high peak of the Parrow range, 69°; culminating point of the same range at Behistun, with the road we came in one with it, 78°; an ancient tumulus in the plain called Chaghan Nargis, 316½°.

September 16th.—Crossing the Mirikh by a bridge of one arch, at 4.12 A. M., we resumed our route towards Harunabad, in the direction of the Char-Zabar pass. At 5.15 commenced the ascent of the pass from the Mahidasht plain, reaching its summit at 6.20, over a very rough and somewhat sinuous road. At 7.30 attained the summit of the Nal-Shekan pass, ascending over a very difficult ridge of sheet rock and broken stones, ill adapted for the passage of loaded mules, and, indeed, from its steepness, affording but a precarious footing even to the unhampered beasts. Between the Char-Zabar† and Nal-Shekan passes a fine plain (plain of Zobeideh) is crossed, of no very great extent, and encircled by an amphitheatre of hills, the range here being hollowed out in the form of a basin. The pass over the Char-Zabar bears from the Nal-Shekan 17°, and the road onwards through the Calhur country 237°. Proceeded in the latter direction until 9 over some undulating hills, bearing, in some places, recent furrows of the plough. At this time the road swept abruptly round a low tongue (a continuity of the Dalahu chain, bounding the plain of Harunabad to the eastward) in a direction of 285°; and at 9.35 reached the Khan of Harunabad—one of the most wretched halting-places we have as yet met with. A body of Calhur horsemen met us a short distance from the Caravanserai, and escorted us as far as

* These make the Khan in latitude 34° 15′ 48″ N., and 2° 18′ 50″ east of Baghdad.

† Mahomed Ali Mirza, late prince of Kirmanshah, fortified this pass, and defeated the Turkish army here, on its invading the Kirmanshah territory during the government of Daud, Pacha of Baghdad. It forms an admirable position for defence, but no invading army should be allowed to advance thus far into the Persian dominions; as the passes in the western Zagros, even if occupied by an inferior force, offer almost insurmountable obstacles to hostile encroachments. The Taki-Girrah, the Nal-Shekan, and the Char-Zabar passes may be pronounced as almost insurmountable by artillery in their present state. The pass of Derbendi Ustaghan, lying between the Bandi-Noah and Kukan ranges, is, however, represented as a comparatively easy one for the passage of guns, and should be used if it were intended to assail Persia from the neighbourhood of Baghdad.

its walls. A miserable village, capable of affording a few scanty supplies to the caravans that stop here, surrounds the Khan; but, affording no better accommodation, we were compelled to seek, in the filthy recesses of the "hotellerie" of the caravans, a shelter from the noon-day sun, which had become very oppressive.

The spot is, however, one of some interest, as connected with the inscription which we had heard so much of, and which we were not long in finding.

Lying on the platform of one of the vaults, a loose slab, on which a pilgrim was kneading some dough for his evening meal, was pointed out as the coveted relic. On cleaning, it proved to be the half of a tombstone, bearing, in Greek characters, the epitaph of one Eumenes Demetrius.

The four first lines were legible enough; but the remainder, apparently from want of skill, or impatience in the sculptor, were ill wrought and indistinct. The shape of the stone, with its inscribed legend, I copied as under.

This monumental fragment is said to have been found in a graveyard contiguous to the Khan; and an ancient elevated tumulus in the plain, at a short distance separated from it, would lead us to the conclusion that both were erected over the ashes of some eminent leaders of antiquity. It is not unlikely, indeed, that this fine plain was formerly the theatre of some decisive battle; and, although it is purely conjectural, we may, perhaps, assign it as the scene of conflict between some of the rival generals who swayed the destinies of this part of Asia subsequent to the death of Alexander, and the tablet may therefore be commemorative of the name of some brave but ill-fated Macedonian, who, in that

time of anarchy, fell a victim to the prevailing ambition. We endeavoured to possess this interesting relic, but could not overcome the scrupulous jealousy of the natives, who, ignorant of its real character, look upon it as a talisman, on which the well-being of the district materially depends. They attribute to its presence an exemption from famine and pestilence, which they are convinced would assail them in the event of its abstraction; and, though offering no objections to our copying it, were firm in opposing any attempts for its removal.

The present hamlet and Khan of Harunabad stand on the *débris* of some old ruins, said to occupy the site of a town founded by the Khalif Harun-al-Rashid.* The district occupied by the Calhur tribe extends as far north as this spot. The tribe is the most powerful in the neighbourhood, and can bring a large body of men into the field. Their features are handsome and manly, with a strong Jewish cast, and their name, as Major Rawlinson believes, will also identify them as the descendants of the Samaritan captives who were placed in the Assyrian city of Calah or Halah. They are now Mahomedans, and, when not oppressed by the Government, are looked upon as a peaceful people.† We experienced much civility from them, and the conversation of their chiefs showed a superior intelligence.

September 17th.—Mounting at 5.30 A. M., a direction of 282° was kept for fifteen minutes, and then changed to 304°, leaving the direct road to Kirrind on our left. These courses skirted the east side of the valley of Harunabad. At 6.55 the undulations bounding the valley were ascended in a line of 349° until 8, when the road became very winding and stony, over a higher range (a prolongation of the Larr) in a general direction from 280° to 22°. For the bare and arid soil of the lower ranges we now exchanged the oak-clad paths of the mountains. At 9, the road held to the latter direction through some magnificent scenery, occasionally, as we turned some sequestered spot, passing the rude tents of a Guran family. Gradually ascending, we reached the pretty hamlet of Bireyeh Khassim at 9.45, and at 10.10 the southern bend of the Zemkan river crossed our course. From this time we skirted its east bank on a course of NE., through a valley abounding with the willow, poplar, and oleander, until 10.55, when we arrived at our former abode at Gahwarah, in company with Shabas Khan and a numerous retinue, who, on descrying us, had hastened to welcome us in the usual way.

* The Kurds term it Harunyeh. It stands on the east side of an extensive and well-cultivated plain, that is bounded on the west by the Band-i-Noah and Kukan ranges. The latitude of the Khan is 34° 06′ 36″ N. It is east of Baghdad 2° 2′ 14″.

† The numerical strength of the tribe is represented as 7,000 families. The most part are nomade, and in the winter reside in the neighbourhood of Mendalee. The name should properly be spelt Kalhur.

By a return to this place, we are again enabled to place a value on the performances of the chronometer. An absence of eighteen days furnishes an ample interval; and our lengthened stay at Behistan, and two visits to Kirmanshah, afford us positive data, from daily observations, for the intermediate periods. The variations occasioned by temperature and travelling are thus corrected, and an approximate rate, which may be depended on, is thus ascertained and applied for the days occupied in marching.

September 18th.—Accompanied by an escort of Gurans, we continued our route at sunrise, in a general direction of NW., towards the heights of Dalahu. The road lay over the abrupt projections abutting from the east face of the Dalahu crest, through a forest of oak, mingled with the plane, the walnut, and the pear, but was so extremely tortuous that it would be both useless and tedious to note its various turns. It was a continued ascent the whole way, over hill and ravine, torrent and brake, until we arrived, at 2 P. M., at Bibiyan,* an encampment of Sunni Kurds, occupying a small plain under the NE. brow of the Dalahu crest. This is a beautiful spot, and the view from a hill close to the camp is singularly magnificent. The whole valley of the Zemkan, with that clear river like a silver thread, although six miles distant, appears at our feet.

The ravines clothed with fern, and here and there highly cultivated, now tinged with the light or hid in the shade of the setting sun, extend in radial order into the valley below, and carry numerous mountain streams in their deeply furrowed beds to aid in swelling the waters of the Zemkan. We can trace several encampments on the declivity of the mountain by the smoke ascending from the evening fires, but to the north all appears a vast sea of desolation. The evening is peculiarly mild, and the peaceful avocations carrying on in our secluded camp—indiscriminately occupied, as it is, with the human and brute species—affords a pleasing picture of a pastoral life.

From this spot the following bearings were obtained :—Mountain above the town of Gahwarah, 151½°; Kileh-Kazi, 132°; peak of Parrow, 102½°, having the centre of the Abi-Shekr plain in one with it; centre of the Holoor plain, eight miles distant, 78°; plain of Nirridji, eight miles distant, 65°; Loosheh, at the top of the plain of Mirabad, 22°; Darneh, due north; paps on the high mountain range of Shahu, 87½°; opening of the Shahmar, 114°.

September 19th.—A fine bracing morning, with the thermometer at 51°. Shortly after dawn we were again in the saddle, threading our

* Between Bibiyan and Gahwarah are several rich valleys. The principal bear the following names: Nerije, Darraweis, Girgowan, Bindar, Biyamah, and Dashtimort. Bibiyan is in latitude 34° 32′ 45″ N., and 1° 44′ 50″ east of Bâghdad.

way along the narrow path skirting the mountain in a general direction of NNW. These were merely footpaths, used by the mountaineers, conducting along the heights, through a tangled forest of oak and fern, quite impassable for laden mules; consequently the baggage had to proceed by a longer but less difficult road* some way further down on the slopes of the mountain. In three quarters of an hour we arrived at Kaleh Zanjir, a ruined fort occupying a strong isolated position on the summit of a naturally scarped projection from the NE. brow of Dalahu. It may be about one and a half mile distant from Bibiyan, in a NNW. direction, but accuracy of the road-book was here out of the question. The descent to this spot is one of the most abrupt and tortuous that horsemen ever ventured, I believe, to accomplish; indeed, at every footstep the prospect of a broken neck was constantly before us.

Kileh Zanjir† held an important position during the flourishing times of the Ottoman empire. Situated on the frontier between Turkey and Persia, it is frequently mentioned in the Turco-Persian boundary treaties, and the remains of a town of some extent are said to exist also in the valley below. A copious spring issues from the base of the rock, and some deep wells in the interior of the fort are said to have communicated with a natural reservoir in the heart of the mountain. At the foot of the scarp the wide-spreading branches of a venerable plane tree, planted on the margin of a crystal-like stream, doubtless afforded a pleasant retreat to the garrison that was formerly kept here; at the present time it appears to hold, from the sacred relics appended to it, a revered place in the minds of the nomade hordes that dwell in its vicinity. From this position, the vale and site of the once royal city of Darneh bears 346°.‡

From 7.15 (after leaving Kileh Zanjir) till 8 we continued to cross hill and dale, in the same general direction of NNW., but gradually ascending to a higher elevation. In the absence of a fixed detail of route, from the difficult nature of the country traversed, we may assume our progress in a direct line at about a mile and three quarters per hour. At the latter time we had reached the most northern brow§ of the Dalahu heights, having skirted the entire face of what I term its SE. prong. From this point, the mountain trends a little to the southward of west,

* Through the Dashti l'il valley.

† Opposite Kileh Zanjir, and on the east side of the Zemkan river, the plains of Mirabad, Neriji Holoor, and Shamar, extend from NE. to SE. The north end of the Kileh Kazi range terminates in the latter plain, through which the high road from Sulimaniyeh formerly conducted to Kirmanshah. It is now seldom used, in consequence of the insurrectionary state of the tribes inhabiting this portion of the country.

‡ See note to page 161.

§ Between Kileh Zanjir and Palan we crossed the valleys of Kam Koweh and Girdi-Kan-Koorch. The hill of Gudrun, in the Sulimaniyeh territory, bore from this 326½°.

to its extremity at Ban Zardeh. Here we observed Bibiyan and Kileh Zanjir bearing respectively 143° and 162°. Proceeded at 8.15 in a more westerly direction, over a less abrupt road to Palan,* an encampment of Jaf Kurds. Here we remained an hour and a half to breakfast with the chief, and at 11.35 resumed our route, under an escort of Jaf horsemen, our friends the Gurans accompanying us no further. At 1.5 we reached Mir-Khassar, a small plain just under the west brow of Dalahu, at an elevation of about 7,000 feet.† The last part of our journey lay over ravines well watered by springs from the heights above, and through forest land abounding with a great variety of game. Hares and partridges were sprung at every footstep, and our guns yielded additional luxuries to the Kurdish evening entertainment. The night is deliciously cool, and some regret is felt at our being compelled to quit, on the morrow, the renovating air of the mountains, for the pestilential atmosphere of the neighbouring plains. Thermometer 50° during the night.

September 20th.—Left the encampment at Mir-Khassar at 5.53, and commenced the descent of the mountain over a very rough and zigzag road, in a direction of WNW. After an hour's march the wooded paths no longer afforded us any shelter from the sun, the oak now becoming stunted and scarce. Another hour brought us to the foot of the range, and the road now led straight for the village of Zohab, in a W. by S. direction, over numerous streams, which, flowing from the mountains above, unite in the plain at their base. These petty streams are thickly bordered with the poisonous yet beautiful oleander. At 9.10 we reached the miserable village of Zohab, glad enough to shelter ourselves from the fierce heat, which we sensibly feel after our sojourn on the mountains, in the mud domicile of the chief, who boasts of the proud title of Ibrahim *Pacha*,—a title derived from a progenitor, Osman, who governed the district when Zohab was the capital of a Turkish Pachalic. This district of Zohab is now one of the disputed spots in the contested territories so long made the cause of quarrel between Persia and Turkey. By right it is Turkish soil; but since the invasion of Mahomed Ali Mirza, prince of Kirmanshah, in 1821, when it was wrested from the Turks, it has remained in the hands of the Persians. When in the possession of the Turks, it was the seat of government of a Pacha, subject to Baghdad, and was comparatively a thriving place, and would continue so, did not the evils of Persian administration prevent progressive improvement. Bounded as it is by three large streams (the Shirwan to the NW., the Zemkan to the east, and the Holwan to the south), and having numerous mountain tributaries traversing it in many places, this rich plain forms a material item of loss in the revenues of the Baghdad

* From Palan the pass between Semiram and Sartak 329° by compass.

† Mir Khassar is in latitude 34° 35′ N., and 1° 33′ 40″ east of Baghdad.

Pachalic; while, at the same time, it scarcely enriches its present possessors, from the corrupt and oppressive measures resorted to by the Kirmanshah Government. From these causes the population is annually decreasing, and since the late encroachments of the Jaf tribe but few Ryots remain to cultivate even a small portion of the grounds of this extensive rice district. Major Rawlinson, in his Notes on a March into Susiana (so often alluded to), enters with some detail into the revenues of the place for three successive years. It then yielded but 10,000 Tomans* annually, or about one-third of the sum that was derived from the district by its former possessors. The amount is now further decreased, and the town that formerly boasted a thousand houses scarcely has, at the present time, thirty tenable mud hovels. The climate of Zohab is proverbially unwholesome, and the water, though clear and not unpleasant to the taste, contains some pernicious mineral component that, if indulged in for a short time only, seriously affects the traveller. To the natives, however, it is not so baneful, but they are nevertheless aware of its bad qualities, for they recommend a raw onion to the stranger before a draught is indulged in. The water of the Shirwan, Holwan, and Zemkan is alike deleterious, both to men and cattle; as, indeed, are, with few exceptions, the whole of the springs which have their origin in this part of the Zagros range. Fevers are very prevalent, caused, I presume, by the marshy nature of the district; and, excepting amongst the nomade tribes, but few individuals wear an aspect of health. During the summer, the heat is excessively oppressive, and the myriads of annoying insects that infest the locality are represented as almost beyond endurance. A cooler atmosphere can, however, be reached in a few hours; and that luxury, ice, is attainable all the year round, by sending to the mountains above.

The town of Zohab† is situate about eight geographical miles almost due north of Sari-Pul, and close under the half isolated crag abutting from the NW. extremity of the Dalahu heights. On the summit of this, the ancient fort of Ban Zardeh is perceptible in its ruined walls. It is known also as Kileh Yezdijird,‡ and is described by Major Rawlinson as a very strong position, both in its natural and artificial defences. A deep gorge, that is seen as you descend the hill, divides the crag from the higher mountains to the east. The tomb of Baba Yadgar§ is here situated, and is visited annually by numerous devotees. The locality

* A Toman is a little less than ten shillings.

† In latitude 34° 35′ 22″ N., and east of Baghdad 1° 23′ 01″. The variation in 1844 was 3° 10′ west.

‡ Yezdijird's castle. It was to this place that Yezdijird, the last of the Sassanian kings, fled on his defeat by the Arabs.

§ Major Rawlinson, in his Notes on a March into Khuzistan, details the various objects of interest that are to be met with in the neighbourhood of Ban Zardeh. Royal Geographical Journal, vol. ix. part 1, 1839.

is reckoned as a very sacred one: at every turn of the road up the mountain some shreds of cloth hanging to the branch of every conspicuous tree,—piles of stones, to which every passer by makes an addition,—or the branches of the trees themselves, thickly clustered with circular pebbles,—votive offerings to the tutelar saint, attest the respect paid to the sanctity of the shrine. In many places these marks of veneration could be traced for miles, and I detected some of our Guran escort adding to the already abundant tokens.

Our stay at Zohab was very unpleasant, and the heat oppressive in the extreme. Towards evening all felt languid, and the very cattle partook of the general depression. The evening set in dull and cloudy, without a breath of wind to aid the circulation; and the swarms of mosquitoes and sandflies that infested the dwelling prevented the obtainment of sleep. Major Rawlinson is seized with fever, and worn out and restless. We mounted our horses at 2.55, on a morning dark as Erebus, preferring the excitement of the march to the stagnant air of the village. Occasional glimpses of the compass gave our course as 325°, over confused and barren hillocks which surround the plain of Zohab. At 5.45, we halted on the bank of a rivulet, bordered with the oleander, for half an hour, to allow the escort to perform its morning prayers. In this short time we lost the horses of two of the party, from their having eaten of the oleander shrubs that are here highly poisonous. Resuming our march at 6.15, in a direction of 20° over the same nature of soil, we crossed the Abbasan,—a small mountain tributary, which, like the rivulet* we halted at, flows from the hills to the eastward, and joins the Abi-Shirwan about NW. by W. of our present position, half way between the plains of Hershel and Binkudreh. From this spot we gradually ascended the slope, abutting from the bluff point of Bamu, in a direction of 30°. At 8.30 halted at an encampment of Sharaf Bayenes for an hour and a quarter. The chief of these people, Syed Russool, is of acknowledged sanctity, and is viewed with a respect almost amounting to awe by his tribe. He wore a marked gravity, becoming his station, and, although dignified, was civil and hospitable. These Sharaf Bayenes are the terror of the neighbourhood. I shall have occasion to notice them when speaking of their chief, to whom we are proceeding, not without some anxiety as to our personal safety; for Major Rawlinson, when in the service of Persia, was employed against this very individual, and should he recognise, even after so many years, the leader of the troops who occasioned the loss of some of his tribe, he may retaliate in a way peculiar to these people, but somewhat alarming to the peaceable traveller. Re-mounting at 9.45, we took a direction of 290°, up the eastern slope of Bamu, over a steep and very winding road. An increased elevation soon

* The Kara-Chem.

brought us again into wooded scenery, similar to that of Dalahu, in which the oak predominates. This feature is, I believe, peculiar to the western Zagros, and is met with at an elevation of about 5,000 feet from the confines of Armenia as far south as the Bakhtiyari country. At 10.45 we had reached the summit of the slopes, and then gradually diverged from the former course to a line of 350° along the east face of the mountain. At noon we descried the hamlet and tents of the followers of Abdullah Beg: another fifteen minutes saw us exchanging greetings with this Rob Roy of Kurdistan. He, however, rose not to receive us, which did not augur well, but, with dignified politeness, beckoned us to be seated on a platform, built around the trunk of a magnificent walnut tree, which extends its shade to some distance. A reservoir in the centre of the platform receives a copious supply of water from a spring issuing out of the mountain some feet above it, from which it again overflows, and tumbles down the hill in numerous cascades. The scene was sufficiently striking. The robber chief was seated alone on the platform, surrounded by a band of as sinister a set of cut-throats as could well be looked upon. These, attired in the spoils of numerous caravans, that had now become ragged and threadbare from a dearth of prey, consequent on the disturbed condition of the frontier, reminded me of "Falstaff's gang," but were even more ready than that celebrated band, either for war or plunder. Abdullah Beg was himself well dressed. He is of a commanding stature, with fine manly features, and, though about seventy-five years of age, appears as hale and energetic as the youngest of his followers. In this mountain retreat he maintains an implicit discipline, and his followers appear not only to fear, but to show him a patriarchal reverence. He is well descended, and nearly connected with the Pachas of Sulimaniyeh, but as arrant a freebooter as ever existed in ancient times, or disturbed the frontier peace of kingdoms. He lives in an independent state, though professing allegiance to Persia. The Amir of Kirmanshah has several times attempted to coerce him, without effect, for, when hard pressed, by crossing the Shirwan at the ford adjacent to his mountain fastness, he seeks shelter in the Turkish territory of his relatives of Sulimaniyeh; and this protection is mutual, for the Pachas of Sulimaniyeh, when compelled to fly, either from their Turkish masters, or from intestine discord, seek an asylum in the camp of Abdullah Beg, on the heights of Bamu, secure from attack by being within the limits of Persia.

Thus comparatively safe, he carries on his depredations with impunity, bidding defiance to the Governments, plundering all, and sparing none, within his reach; and this state of affairs is likely to continue, unless, indeed, the Turkish and Persian Governors make a combined movement against the tribe. This, however, from national jealousy, is never con-

templated. In conversation, it was amusing to hear his complaints of the numerous wrongs that he had sustained from the Governments,—at times delivered with a startling energy, at others in piteous lamentations at his fallen state; but in his fine keen eye and contemptuous curl of the lip could be traced a cunning and independence at variance with his speech. Talking of his wrongs, he said he had been hunted like a wild beast, and alluded to the time when the Gurans, under Major Rawlinson, drove him into the Sulimaniyeh territory, and sacrificed many of his people. This was touching on the dreaded point, and we immediately perceived that he had recognised the leader of the adverse party in the person of his present guest. Some time before, on the grounds of fatigue, he had requested us to lay aside our arms, but we pleaded the custom of wearing for retaining them; and this, coupled with his wily phrases and well-known character, caused some anxiety as to his intentions regarding us. It soon became evident, however, that it was not his present policy to act in a way he would doubtless have done under other circumstances, but he had now a game to play on his own account, and trusted in the good offices of the Major for a favourable representation to the Government; and, at the same time, the old fox was aware of the presence of the Sulimaniyeh Regulars a day's march to the north of his present position. This we were ignorant of at the time, and perhaps owed much of our safety to, for Abdullah Beg, obnoxious as he is to most parties, has, as I have mentioned before, an interest in securing the good will of the Pacha of Sulimaniyeh, to whom, he was aware, we were proceeding,—and, indeed, the troops in his vicinity, he had learnt, had been sent to escort us. Finding at this juncture, that the *fortiter in re* would not avail him, he resorted to the *suaviter in modo*, and, by insinuating promises, sought to borrow money of Mr. H., who he heard was a merchant,—giving, as security for its future payment, the proceeds of some rice-fields that had not yet even been planted, and which, of course, would never have been realised. In this, however, he was foiled, and the afternoon was eked out in topics relating to the policies of European States, with which he has some slight acquaintance. On every other subject he is as ignorant a savage as could well be met with. At taking leave of him the following morning, Major Rawlinson presented him with a watch. This he declined accepting, after placing it to his ear, and hearing the tick, alleging that he was ignorant of such things, and that, moreover, he believed some living animal was concealed *perdu* within the case, that might at some future time exert a bad influence on his fortunes.

We finished the day in partaking of his evening meal in company with him, and scarcely ever enjoyed one so much. The rice grown on his own grounds was, I think, the whitest and finest that I had ever

tasted. To his *cuisine* we did full justice; but a thought would now and then cross the mind, that the bony fingers dipping in the same dish with you had often performed other services for their owner, and might even exert their strength by a tenacious grasp on one's own throat. After our host left us, we canvassed the ways and means of obtaining observations for fixing the position of his "den," but were reluctantly compelled to forego them, being afraid to expose the instruments in the situation we were then in; so, drawing our cloaks around us, we stretched ourselves out on the platform in the open air, and enjoyed a rest we were strangers to in our last night's bivouac.

September 22*nd*.—Awaking at the dawn, we succeeded in stealing a compass bearing* of the defile through which the Abi-Shirwan breaks without exciting suspicion; and hearing on the previous night that an inscription existed on a stone in the valley below us, we prepared for a descent of the mountain in search of it. Despatching the Khoda Hafiz to our host (who, with the privilege of age, had not yet risen, or what is more likely, cared not to expose himself to the etiquette of leave-taking), accompanied by his son and a few horsemen, we left the hamlet of the outlaw, and descended, in an E. by N. direction, into the plain of the Pushti-Kuh. At 6.45 we reached a small camp of Abdullah Beg's people, and a stone with a few scratches on it was pointed out as the one which we were in search of. Our disappointment, therefore, was great, after having come so much out of the way. Proceeded after a halt of ten minutes in a general direction of NNW., over the undulating, broken, and arid ridges of the Pushti-Kuh. These ridges are composed principally of sandstone and limestone, having numerous perpendicular schistous strata traversing them in a direction from north to south, and is the most desolate piece of country we have yet passed over. The hill scenery around is, however, bold and striking. To the NE. the high ranges of Lowsheh Shahu and Avroman, broken through by the Abi-Shirwan, bound the view; while on the W. and NW. the precipitous hill of Semiram,† "a natural fastness of the most extraordinary strength," terminating in the successive peaks of Sur-Khushk, Sartak, and Bamu,‡ that rise to an elevation of 7,000 feet, enclose the valley, which, for desolation and sterility, may vie with any portion of the globe. I must not, however, omit the small circular plain of the Pushti-badan as an oasis in the dreary waste. We saw it beneath us a little on our left, and the spot, from its animated appearance, appears to be a favourite locality of

* N. 25° E. Abdullah Beg states that Darneh stood on the east bank of the Zemkan, and not on the left bank, as we heard from the Bibiyan people.

† Often called Shemiram.

‡ For a detailed description of these localities, see Major Rawlinson's notes in R. G. J., vol. ix. part 1, pp. 29—31, where an interesting description of the ruins and sculptures met with at Hurin and Sheikhan will be found.

the Kurdish families. At 9.30 the road took a more north-easterly direction, and at this time the cliff of Ban-Zardeh bore 174°, and hill of Semiram 315°, distant about five miles. From this to the Gundar ford we traversed successive heaps of the same barren nature, with such abrupt and constant ascents and declivities that it became a perfect labour to sit one's horse. At 11.50 we called a halt before passing the ford over the Abi-Shirwan, to refresh the cattle, and to give some rest to Major Rawlinson, who is now again prostrated with the fever caught at Zohab.

The Abi-Shirwan, or Upper Diyaleh, breaks through a defile in the high range to the NE., and pursues a west course to the north of Semiram, through a deep and precipitous gorge, which is represented* as capable of being defended by a handful of men against any numbers. The ford at this time has only about eighteen inches water on it, but is rapid and impetuous, and in the winter must be wholly impassable. Eight piers of a substantial brick bridge,† that formerly spanned the river on the high road leading from Sulimaniyeh to Kirmanshah, along the valley of the Zemkan, are visible about one mile east of the present ford; and that small tributary itself joins the Abi-Shirwan about a hundred yards above the bridge. The river from this point to the Tigris is said to be navigable for rafts, and timber from the mountainous ranges of this part of Kurdistan is frequently floated on its stream to the Tigris and Baghdad. Both it and the Holwan, indeed, would prove valuable water communications with the low country in the hands of a good Government; and the gums, galls, and extensive rice produce of this part of Kurdistan might be thus conveyed at a very cheap rate, instead of by the expensive caravan routes, as at present adopted. When, however, we see the advantages that offer from such noble rivers as the Tigris and Euphrates, that pursue a course of several hundred miles through a country which formerly yielded four-hundred-fold to the agriculturist, lost sight of by the present imbecile ministers of Turkish policy, we cease to deplore the ruin that has gradually crept over the classic soil in astonishment at the apathy that has caused it. In the hands of a European power,—its decreased population strengthened by emigrants from Europe, and its ancient canals restored even to a tithe of their former usefulness,—it would again become what it was in the time of Cyrus the elder. Pregnant as it then was with great events, and overrun since by successive dynasties that led to its present impoverishment, it is, I believe, yet destined to be the theatre of further strife, that will eventually elevate it from its abased condition to the splendour it enjoyed in the days of "the beauty of the Chaldees' excellency."

At 1.15 we forded the Abi-Shirwan, which is now about thirty yards broad, and are once again in Turkish territory.

* In the pages of the Journal referred to in the note on the preceding page. † Zohab-barra.

Ascended a low ridge of hills termed Melamboo, or Nilambu, which bounds the plain of Shahri-zur to the south, and separates it from the Shirwan river. From the summit of this range the river appears like a succession of deep basins,—abounding in fish, but of no great variety. Took a course of W. by N. to NW. over the range before alluded to, and halted at Gundar,*—a Kurdish village contiguous to an ancient tumulus,—at 2 P. M. From this position, the SE. brow of Bauna bore 220°, and the east face of Semiram 227°. It was well determined also by observation of the Sun and Saturn.

Part of an escort sent by Ahmed Pacha of Sulimaniyeh met us here, and welcomed us to the territory with true Kurdish hospitality. We learn from our new friends that many objects of interest exist in the vicinity, and as we shall miss these by keeping the direct route to the Turco-Kurdish capital, we determine on remaining at a place called Halebjah during the ensuing day.

September 23*rd*.—Leaving Gundar at 6 A. M. half an hour was occupied in crossing the same low range in the NE. direction. At 6.30, arrived at the south limit of the Shahri-zur plain, and observed bearings as follows:—high peak of Avroman mountains, 42°; Gudrun peak, over the town of Sulimaniyeh, 320°; an ancient tumulus in the plain called Tappeh Kureh, distant three miles, 29°; a high peak of Seghirmeh range, 268°; Kureh Kazhav, or high peak near the pass leading through the mountains to Tabriz, 337°. Proceeded onwards at 6.42 along the north limit of the low range in a zigzag direction from NE. to ESE., till 7.30, when we reached Halebjah,† a village surrounded by a few gardens and tobacco-fields. Took up our quarters in some comfortable tents already pitched for our accommodation by the obliging Pacha, who, in addition, has sent his cousin, with a company of regular infantry to escort us to the capital. Sulimaniyeh is stated to be twelve hours from this position.

September 24*th*.—Continued our journey at 4.50 A. M., through the plain of Shahri-Zur, which is now highly cultivated, and abounding with villages of the Jaf Kurds. At 5.50, examined an ancient tumulus called Bakr'awa,‡ standing on the plain, and from it obtained the following bearings:—Tappeh Kureh, 52°; Halebjah, 143°; peak of the Avroman range, 55°. This singular mound is entirely artificial, about 150 feet high, and in circumference, by pacing it, nearly 500 yards. Its summit forms an irregular indented circle, which has been divided

* Gundar, by double altitudes of the sun, was made in latitude 35° 7′ 42″ N.; by an indifferent observation of Saturn, 35° 6′ 7″ N. Its chronometric difference east of Baghdad is 1° 29′ 54″.

† In latitude 35° 10′ 17″ N., and east of Baghdad 1° 31′ 25″. From Halebjah, the following bearings were obtained:—hill over Bauna, 346°; high peak of Avroman, 38¼°; Gudrun, 316½°; Kureh Kazhav, 333¼°.

‡ Ghulamber from this spot bears 48¼°.

into two parts by a wall crossing it. A shaft, in all probability the remains of a well,* is observed on its east face; and at the base of the tumulus a copious spring issues out on the plain. The *débris* of houses and walls, separated from the mound by an ample ditch, serve to show that, whatever cause may be assigned for the origin of the mound in later times, it was fortified for the defence of a town that encompassed it. Pursued our journey at 6.5, and at 7.10 crossed the Abi-Zalm, which flows from the ENE., and, irrigating this portion of the extensive plain of Shahri-Zur, continues its course to the south-westward, until it meets with the Tajrud, about an hour SW. of our present position. The combined streams then unite with the Abi-Shirwan, in the neighbourhood of Semiram. From the Zalm river Bakr'awa bore 128°. Proceeded at 7.20 in a direction of 330°, until 8.36, when we crossed a small branch of the Tajrud, and at 8.50 altered the course to 280°. At 9.20 halted for ten minutes on another artificial Tappeh, erected on the left bank of the Tajrud, which, like the Zalm, is a stream of no great magnitude. It takes its rise† in the extreme north of the plain, about five miles NW. of the town of Sulimaniyeh. From this Tappeh, Bakr'awa bears 130°; Tappeh Kureh, 102°. At 9.30, went on in a general direction of 290°, but our course now became very winding, to avoid the cultivation and numerous canals, which are cut for irrigation, from the Tajrud.

Halted for the day at Yassin Tappeh,‡ another singular mound of artificial construction, and evidently the work of a very remote period. Unlike the other Tappehs§ met with so frequently in this part of Kurdistan, which are generally round, this exhibits a square form, with its angles pointing NE. and SW., NW. and SE. Its surface is nearly flat, 320 paces in diameter from north to south, and is elevated above the surrounding plain about eighty feet. A ditch, defended by a wide

* Communicating with the spring below.

† At a place called Sertchinar.—Vide *Rich's Kurdistan and Nineveh*, vol. i. p. 65.

‡ Bakr'awa bears from Yassin Tappeh 122½°, and Gudrun 322°. The Semiram precipices extend an angle between 152½ to 165°. Yassin Tappeh is in latitude 35° 21′ 28″ N., and east of Baghdad 1° 13′ 31″.

§ Tappeh is a Turkish phrase, signifying "mound," generally applied to artificial tumuli. Yassin Tappeh is considered by Major Rawlinson as identical with the Resen of Genesis, and in later times to have been the capital of Shahri-Zur. Rich, however, makes Ghulamber, a strong fort, now in ruins, situate in a gorge at the foot of the Avroman range, where the Zalm river issues on to the plain, the capital of the district. Shahri-Zur implies a "stronghold" or "city of strength," and is not inapplicable, considering the many fortified places situated in the district. The plain is about thirty-five miles long by ten broad, and is bounded on three sides by mountain barriers that are inaccessible except by a few very difficult and easily defended passes; and on the fourth by the Abi-Shirwan.

The soil is everywhere fertile, and yields a rich harvest in its rice-grounds alone. It is the abode of numerous families of Kurdish Ryots, as well as of the Jaf, a large and powerful tribe, who owe allegiance to the Pachas of Sulimaniyeh. These latter, however, migrate in the winter to the more genial pastures to the west of the Abi-Shirwan.

rampart of earth, surrounds the mound, but no traces of buildings are visible adjacent to it, and the remains of three wells, now filled with rubbish, are visible on its summit. Another Tappeh* of a conical form is seen to the SW. of it, about a mile distant.

September 25th.—Left before dawn of day to complete our last stage to the town. For an hour the road lay over cultivated land, plentifully watered by cuts from the Tajrud. It then led through the small village of Arbet, and over the skirts of the range, extending SSE. from the peak of Gudrun. At 10 we entered the town of Sulimaniyeh, where we found a house at our disposal, with tents pitched on an adjoining plot of grass. The house, however, was abandoned for the more gay pavilion, and in the society of the Pacha and his officers the day was passed pleasantly enough.

Sulimaniyeh, the capital of the Pachalic, is a collection of small and ruinous houses, bearing a more mean appearance than, I believe, the most wretched hamlet in England. This is, however, not attributable to the poverty of the Kurds alone, but to the nomade habits of its occupants, who, in the spring, summer, and autumn, abandon the town, and spread themselves over the country, either to superintend the cultivation of their lands, or to enjoy the *otium cum dignitate* of a pastoral life. After its second foundation by Ibrahim Pacha, it gradually improved, and in Rich's time boasted of about a thousand houses.† I believe, at the present time, it scarcely contains half that number of tenable dwellings, and is, moreover, considered unhealthily situated when compared with the more salubrious and less confined region of the adjoining plain. Built on the skirt of a low and barren range, which

* The whole district of Shahri-Zur is dotted with these ancient tumuli, and single mounds are observable in other places,—indeed over all Asia Minor, from the borders of the Mediterranean to the banks of the Caspian Sea. Most of them are conical, and are generally erected on some level spot. Their average height may be considered as 100 feet. Some have fortified summits, and are surrounded by a ditch, while others present but a smooth conical outline. Of the fortified tumuli, I may enumerate Arbil (ancient Arbela), Yassin Tappeh, Bakr'awa, and the Tellul Benat and Alij, in the neighbourhood of Samarrah and Dur. Mr. Rich instances also Arbet and Kiz-Kalassi in this vicinity; and many others yet unvisited by Europeans will doubtless be found in this part of Kurdistan. See note to p. 142.

Tellul is the plural of the Arabic Tel, a "mound," equivalent to the Turkish Tappeh.

† The present town was founded by Ibrahim Pacha, the father of Kurd Suliman Pacha, about sixty-two years ago. The Pachas formerly resided at Karacholan, on the other side of the Azmir range, but since the foundation of Sulimaniyeh (named thus in compliment to Suliman, then Pacha of Baghdad) the seat of Government has been transferred to the latter. On building the present Serai, or "palace," numerous urns containing bones, and a stone bearing an inscription, were disinterred from a tumulus that occupied the site.—See note in *Rich's Kurdistan and Nineveh*, vol. i. 119.

Sulimaniyeh stands in latitude 35° 33′ 1″ N., and its meridional distance from Baghdad, by my observations, is 1° 2′ 46″ east. Rich, who remained here some months, and observed many eclipses of the Satellites of Jupiter, makes the town east of Baghdad 1° 2′ 24″.

rises up immediately behind it, it is either entirely shut out from the cooler breezes that sweep the plain, or is visited by constant hot winds which blow from the E. and NE. over the heated ridge during the summer months.

Ahmed Pacha is the present ruler of this part of Kurdistan, and were it not for the fettering instructions that attended his investiture by the Baghdad Pacha in 1842, his enterprise and perseverance would, no doubt, restore the Pachalic to what it was in the time of Suliman Bey, the progenitor of the Baban or Bebbeh family, from whom he is descended. To any one acquainted with the present political hatreds existing between Persia and Turkey, it would seem a desirable object on the part of the Osmanli Vizirs to strengthen the frontier provinces so as to form a bulwark against the machinations of the Persian court, and a threatened invasion by a Persian army. A fitter individual, I believe, for this purpose, could not have been selected than Ahmed Pacha. With a liberal education, and a taste for the new order of things, he foresaw the advantages of a regular force, and in a few months after his investiture succeeded in overcoming the scruples of his clansmen and subjects, so far as to persuade them to lay by the dress of their ancestors, and equip themselves in the garb of the regular troops of the State. In a year he had raised and disciplined, according to European tactics, a respectable force, which at the present time amounts to about 800 men, notwithstanding the contrary predictions of his Baghdad friends, who would have persuaded him that the attempt to organise a regular body from the mountaineers of Kurdistan would be attended with evil results to himself. With all his desire, however, for progressive improvement, and flattering as was his first essay, he finds himself an object of suspicion at the Baghdad court. Increased imposts are laid on the province, the present assessment of which he can barely pay; and moreover, enormous sums, in addition, are demanded of him, to stop the ears of the Baghdad Pacha and other officials who are inclined to listen to the tempting offers of his brother, Abdullah Beg, now an exile in that city.* This ruinous policy, of placing brother against brother and tribe against tribe, is the besetting vice of Turkish administration, and the nefarious and ill-concealed system of bribery indulged in by high and low, though it enriches the rapacious servant of the State, prevents the spread of that just principle so necessary to the

* Since this was penned, Ahmed Pacha has been deposed in favour of his brother, Abdullah Beg, now created a Pacha, and Ruler of Sulimaniyeh.

The former, fearing to trust himself to the faith of Nejib Pacha, of Baghdad, fled with a few adherents into Persia, but has since thrown himself on the protection of the Sultan, and now resides an exile at Constantinople. Much attached to the English, and to Major Rawlinson in particular, from whom he received much sound advice, his deposition is to be regretted.

melioration of the people and the country. It is this that Ahmed Pacha so much bewails, and with justice too, for the emended condition of the province must soon give way to the insatiate demands made upon him. Ahmed Pacha is the eldest direct descendant from the original founder* of the Bebbeh family, and therefore the hereditary successor to the Pachalic. His next brother, Abdullah Beg, is in honourable exile at Baghdad. He is of an intriguing and ambitious disposition, and most of the present Pacha's distresses, I believe, arise from the envious temper of his brother's mind. Ahmed's appearance is not prepossessing; and an impediment in his speech renders it at times painful to listen to him. When excited, however, an energy is observable in his eye which accords with his actions; and he bears the character of a persevering man of business. In manners he is mild and gentlemanly, and, like all Kurds, frank and hospitable. Accustomed to but little sleep, he devotes most part of the night to financial and political correspondence, whilst his days are occupied in general affairs, in the superintendence of his little army, and in agricultural improvements. Possessing such qualifications for a ruler, it is painful to think that his tenure hangs by a thread, and that he may be arbitrarily removed from the seat of his usefulness by the lavish promises of a higher bidder, who, in order to fulfil his baneful contract, must further oppress the already distressed Ryot and landholder.

I must here close the Journal. The pernicious quality of the water in the regions through which we have lately been travelling, has for some time affected me, and I am now rendered so weak that I must quit Kurdistan. My poor Arab, whose gentle and quiet paces induced me to bring him into this mountainous tract, as indispensable to the person that carried the chronometer, is a sufferer as well as myself, and for the last twenty days has been straggling after the party without either halter or rider. Major Rawlinson's public avocations will delay him some days longer in the neighbourhood, but as he purposes returning to Baghdad by a longer, and hitherto a less frequented road, the astronomical observations that he may make I shall append to the Journal, to render it, in this respect, the more complete.

September 29th.—Taking leave of my companions, and the kind Pacha, who has given me letters for my safe conduct on the road, I left Sulimaniyeh at noon. Crossing the head of the Shahri-Zur plain in a W. by S. direction, over fields of rice, and occasionally wading through swampy grounds, I traversed the low range of Karadagh by a difficult

* Suliman Beg Ghaze, A. H. 1088, first took the name of Baba, or Bebbeh, in addition to his own. The name of the tribe, according to Rich, is Kermanj.—See note in his *Kurdistan*, vol. ii. p. 85.

path, and descended over undulating slopes to a village of the same name, romantically situated in a defile between the Karadagh and Seghirmeh chains, the latter of which rises to an elevation of about 4,000 feet above the valley. The village may contain about five hundred houses, and appears a quiet and thriving place. Its Governor, Abderahman Beg, a connection and stanch supporter of Ahmed Pacha, is one of the handsomest men I have seen, and possesses a frankness and urbanity of manner that at once secure the confidence of the stranger. I sat conversing with him to a late hour, during which time he was constantly occupied in despatching and receiving letters, but at the same time he never allowed the conversation to flag. At night, indeed, the Kurds hold their Mejlis or assemblies, and transact most of their business. This at least I had cause to regret, for the constant influx of visitors prevented my sleeping until it was time to mount in prosecution of the journey. By day-dawn the busy throng had all retired to rest, and I departed without a single being but those of my own party being aware of the fact. The ascent of the Seghirmeh chain was a tough and tedious job, but the scenery made amends for its weariness. The descent, however, from its summit into the Assyrian plains was a more serious affair. Most of the party led their beasts down the steep declivities of the mountain, but, from my weak state, I preferred the saddle, at the risk of a broken neck. Five hours were occupied in this of all others the most harassing travelling; and, to add to our mortification, when the skirts of the range were reached, a south wind, accompanied by clouds of dust, blew strong in our teeth, and almost blinded the party with the fine sand that swept over the country. A red and lurid haze prevented objects being seen at a hundred yards' distance, and the heat of the fierce sun was insufferable after our sojourn in the mountains. The weariest day, however, has an end, and the black tents of a small Kurdish tribe, subjected to Sulimaniyeh, pitched on the borders of a mountain torrent, at last sheltered us after ten hours' occupation of the saddle. The people were, however, but barely civil, and had I not had a written order for an escort of horsemen to accompany me over the next stage, which is a disturbed tract infested by parties of rebellious tribes, I must have waited to accompany the first passing caravan, or have retraced my steps to Sulimaniyeh. The note of Abderahman Beg changed the posture of affairs; but instead of the fifty horsemen that should have accompanied me, they declared that ten were alone available, the fighting men having gone to repel an attack made by some of the Hamawend the night before. On my saying that ten were sufficient, and urging them to mount, new obstacles were thrown in my way; but seeing me determined on proceeding, about

twenty armed horsemen were collected, and a like number of foot. By 8. P. M. we were again in the saddle, had forded the stream, and reached a distance of a mile from the camp, when a halt was called by the party before going through a ravine in which two individuals had been murdered the previous evening. This halt enabled the valiant escort to cool, and many objections to proceeding further by night were started; when, tired with their vacillation, I pushed on, attended by Saleh, a Kurdish servant of mine, through an open plain, about half a mile long, that led to the dreaded ravine. We had reached the head of the ravine, and halted, in hopes that the escort would follow, when a vigorous firing was commenced and kept up for some time; but suspecting its cause, I remained on the spot. Saleh, however, fairly took to his heels, and, as far as I could distinguish him, was belabouring his mule with such sturdy blows that quickly conveyed him out of my sight. Left alone, I was compelled myself to follow, and on regaining the party, who had by this time reached the tent, I heard such conflicting statements of ambush and surprise, that I at once perceived the affair had been got up by my own party to delay the departure until sunrise. After an hour lost in reproaches and persuasions, I succeeded in getting them to accompany me,—not, however, before I had threatened to return to Karadagh. Reinforced now with ten additional horsemen, the journey was commenced and persevered in; but the utmost alarm was manifest when a suspicious spot was reached: and at one time, when emerging from a gorge, the appearance of three donkeys laden with brushwood, and accompanied by two footmen in the valley below, was, in the bright moonlight, magnified into a formidable troop of banditti. I must however, give my escort credit for a good military education, for they occupied the sides and summit of the pass in a soldier-like style; the footmen, extended on their bellies, just exposing the mouths of their pieces over the ridge; while the horsemen, concealed in the gorge, awaited the rout of the enemy by the musketry before making the charge. To their great relief the enemy proved to be but "men in buckram," and Ibrahim Khanchi was reached at 3 A. M. without further incident. I have been thus prolix, to show the disappointments that may often be experienced by the traveller in this country, and to expose the vexatious obstacles that are sometimes wantonly thrust in the way to mar a speedy progress from place to place. In my case, I believe no real danger existed, or I should have heard of it before leaving Sulimaniyeh; and though the story of the murdered men was, in itself, a true one, the date of its occurrence was made to suit the present occasion, though it really happened a fortnight before.

From Ibrahim Khanchi I pursued the route to Kifri, and thence the post road to Baghdad, where I arrived on October 2nd. Finding the

south wind continue, precluding all hope of observation on the road, I left my party to come on stage by stage, while I proceeded, Tartar, on to the city. The wholesome waters of the Tigris soon restored my condition, but my Arab horse died of debility the day after his arrival.

Major Rawlinson and his party, on their return, pursued the route by Karadagh, and along that range to the ruins of an ancient temple named But-Khaneh. Thence, keeping the Abi-Shirwan to his left, he passed through Kileh Tabizan-Shukeit and Shirwaneh, where he crossed the river to the village of Khanakin on the Holwan. The positions of these places, derived from his astronomical observations, are given at foot.* He arrived at Khanakin on October 11th. An interval of forty-seven days had thus elapsed since our former visit to this place, during which time the chronometer had been exposed to various alternating temperatures, and to the perturbations incident to mountain travelling; yet it is satisfactory to add, that the position of Khanakin, on connecting the series of measurements, differs but three miles of longitude from that assigned to it on the journey outwards, and this difference, in the construction of the map, has been distributed over the whole, to prevent its attachment at one spot. The geographical determinations, as noted in the Journal, may, therefore, I think, be relied on as a very near approximation to the true positions. The bearings throughout are magnetic, carefully taken with an excellent prismatic compass by Troughton and Sims, cut from 0 to 360°, east being 90°; south, 180°; and west 270°, and the variation of the needle for obtaining the true azimuth will be found among the other astronomical data. The longitudes throughout the Journal are reckoned from the meridian of Baghdad, which we now consider as definitely settled at 44° 25′ east of Greenwich, though in the construction of the map that accompanies the Journal it is placed in 44° 20′ east. This, however, is of little moment, and can easily be altered by placing the meridians five miles further to the west.

A delay, consequent on other public duties, and a recall to India, where I had my time fully occupied in the compilation of a general map embodying the work of the Euphrates' expedition in these countries, has prevented the completion of the Journal until the present time; but from the kindness of Major Rawlinson, I am now able to append the

* Karadagh, lat. 35° 17′ N., long. 45° 25′ 15″ E.
But-Khaneh, lat. 35° 7′ 16″ N., long. 45° 34′ 35″ E.
Shukeit, lat. 34° 54′ 50″ N., long. 45° 24′ 10″ E.
Kileh Tabizan, lat. 34° 57′ 9″ N.
Shirwaneh, lat. 34° 38′ 42″ N., long. 45° 9′ 43″ E.

elevations of some of the principal places included in it. These were observed by him on his recent visit to Persia, and are a valuable addition to the other geographical data. Vide the following

Table by Colonel Sykes's Boiling Water Apparatus.

Locality.	Centigrade Thermometer.	Fahrenheit's Thermometer.	Boiling Point.	Approximate Elevation.	Multiplier.	True Elevation in feet.	Date.
Sarpuli Zohab	40°	122°	209° 25	1405	1·187	1667*	5th July.
Surkhi-dezr	31	101¾	205 60	3295	1·146	3776	6th July.
Kirrind	31	101¾	202 90	4710	1·146	5397	7th July.
Harunabad	36½	114	203 50	4392	1·171	5143	9th July.
Kirmanshah	30½	100½	202 50	4922	1·142	5621	14th July.
Hamadan	27	93	200 75	5849	1·127	6592	13th Aug.
Summit of Elwend	15½	67	188 00	12843	1·073	13780	15th Aug.

(Signed) F. Jones.

* Above the level of the sea, deduced by formula of Major Jackson.

RESEARCHES

IN THE

VICINITY OF THE MEDIAN WALL OF XENOPHON, AND ALONG THE OLD COURSE OF THE RIVER TIGRIS;

AND

DISCOVERY OF THE SITE OF THE ANCIENT OPIS.

BY

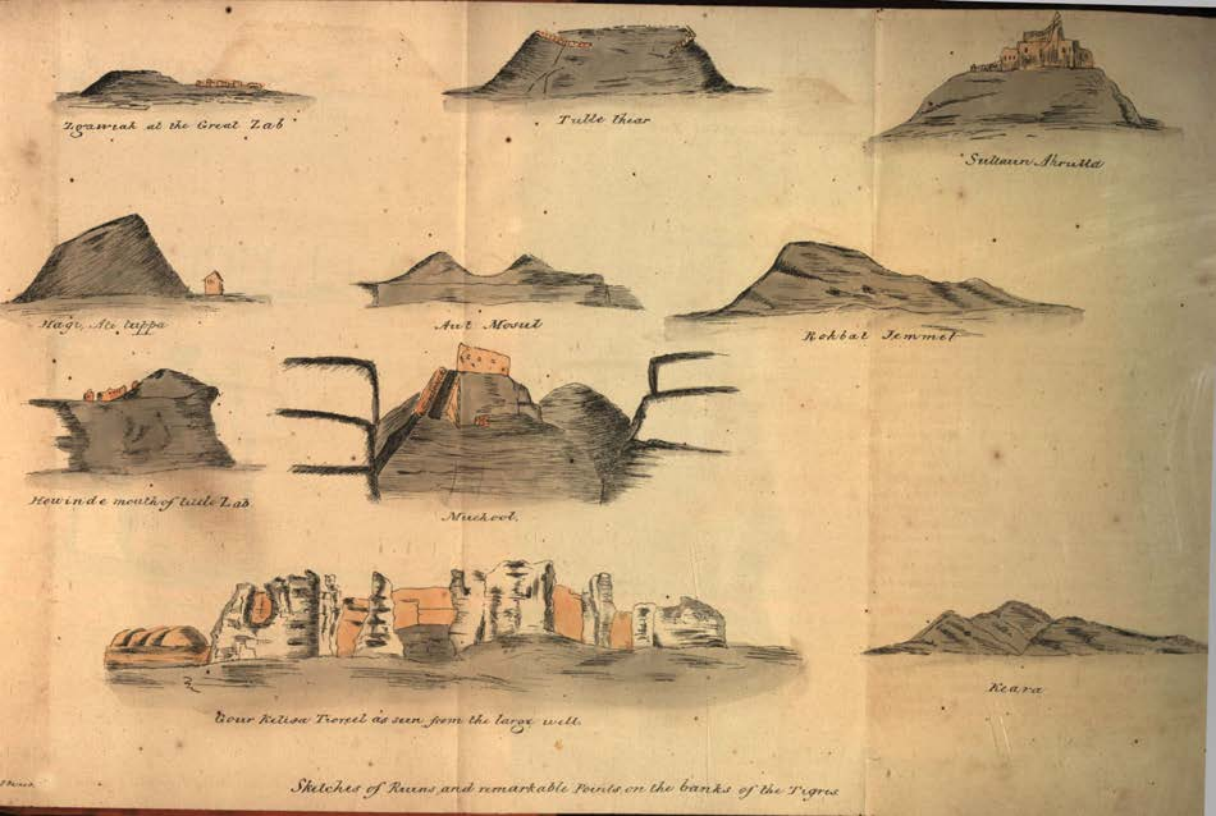
COMMANDER JAMES FELIX JONES, I. N.

Submitted to Government on the 10*th February* 1851.

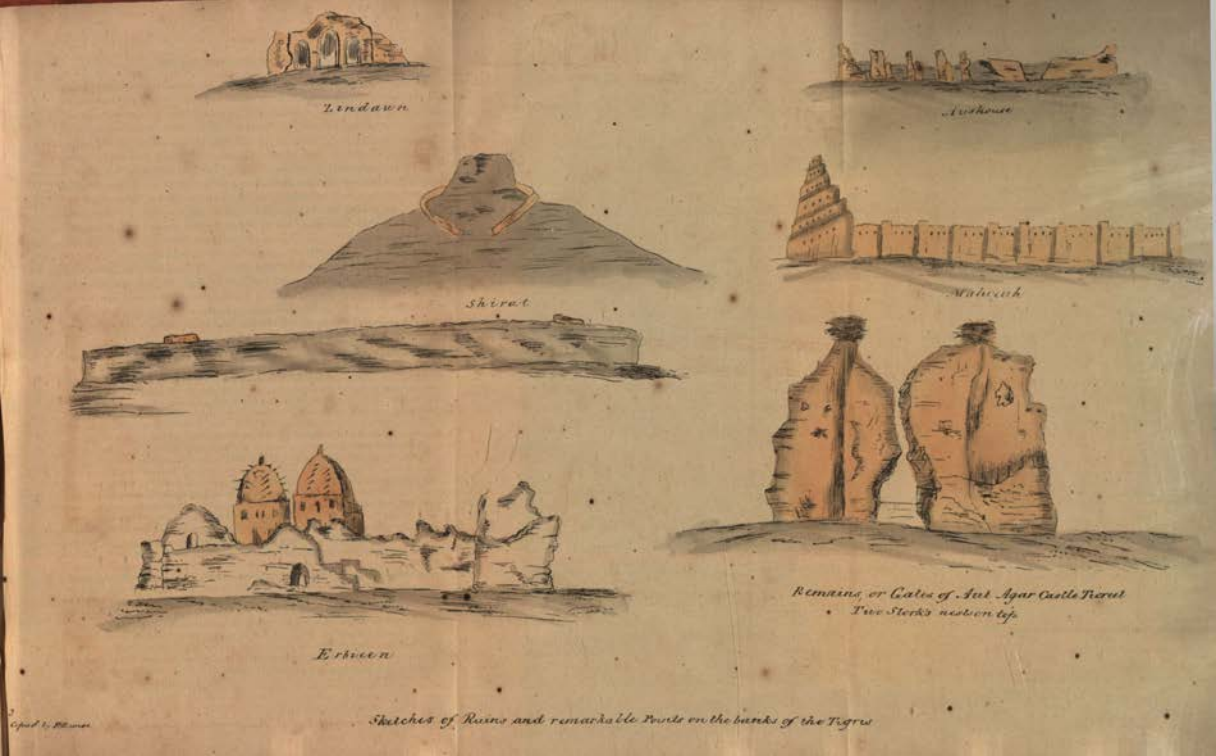
RESEARCHES.

In the spring of this year (1850) I had projected a surveying tour through a portion of Babylonia and the Lower Chaldea, provided a sufficiency of rain-water and pasture were available on these deserted portions of Mesopotamia, which, bounded on the south-west by the Euphrates, on the north-east by the Tigris, and on the south-east by the Shat al Hye, a considerable branch of the latter, while, in ancient times, admirably protected to the north-west by artificial streams, contained, in those remote ages, not only a vast and highly civilized population, but boasted also of the most magnificent cities of the world, as it then existed. These, though not entirely unknown, have been visited by a few Englishmen only, and from the difficulty of the country,* as well as the wild state of the tribes, have obtained but a partial glance. At the instant of starting, however, I was disappointed by a revolt taking place among the predatory families on the Hindiyeh marshes to the west of the Euphrates, and, as is usually the case, the disaffection extended to the tribes in their immediate vicinity. A letter from an Agail chief, employed with the troops in the disturbed districts, despatched in haste, strongly recommended me to defer the visit until less disturbed times, and the departure of troops and guns from the city corroborating the intelligence, I was reluctantly compelled to abandon my design, and to leave this interesting tract for future examination, when a quieter period would enable me to fix, at more leisure, the positions of the various sites, as well as obtain specimens of the many inscribed relics lately seen by Mr. Loftus, the active and intelligent naturalist with the frontier Commission under Colonel Williams. To this gentleman, and

* Destitute of water and pasture during three-fourths of the year. The tribes, too, in the lower portion adjoining the Hye, are under little control, from being separated into many subdivisions, whose chiefs, though nominally under the great Sheikhs of the Montafik and Zobeid, act independently of each other. The marshy nature of the tract adjoining the Hye affords also a secure retreat when aggressions of more than an ordinary nature awaken the Turkish authorities from their usual apathy, and in proportion to the security they possess Arab depredations are extended or curtailed.



Sketches of Ruins and remarkable Points on the banks of the Tigris



Sketches of Ruins and remarkable Points on the banks of the Tigris

to the pencil of his associate, Mr. Churchill, we are indebted for all that is positively known respecting Werka,* and other entombed cities of an ancient age and people in lower Mesopotamia, and in the superficial examination thus made, enough was elicited to excite a further inquiry, not only as to their character, but as to their geographical position also. This latter is, however, my province, and, though thwarted for the time, I hope yet to assign to these antiquated places a correct place on our maps at no distant period, and, were excavations attempted even on a small scale, I have little doubt but a sufficiency of material would be brought to light to repay both the antiquarian and palæographer. In the mean time, as my arrangements for the journey are made, I turn my steps to a less disturbed tract, which has also a high claim to our regard, for with it are associated deeds of military renown which, after a lapse of twenty-two centuries and a half, tend to show how the most adverse circumstances in war may be successfully combated by an indomitable spirit and a strict military system.

Beyond the interest excited by a consideration of the retreat of the gallant "ten thousand Greeks," the old course of the Tigris is in itself

* Though little has been positively known with regard to Werka, it has been in name identified some time since by Major Rawlinson as the Ur of the Chaldees and the Orchoë of the ancient geographers. European geographers, D'Anville particularly, have generally fixed the locality of the Orchoëni further south than the position occupied by Werka, but the evidence of Pliny (lib. vii. cap. 26, 27) and Strabo (lib. xvi. p. 739) will not agree with these conclusions. Ptolemy again places Orchoë, according to Bryant, in lat. 32° 30′ N. (see Mythology of the Ancients, p. 524, vol. ii.) In the Periplus of Dr. Vincent it is given from the same authority as 32° 40′ N., both being a degree nearly too much to the north of the parallel of Werka. Ptolemy's latitude would, however, appear to refer to the ancient Cutha, represented by the mounds of Ibrahim first discovered by Major Rawlinson in 1845 (Commentary on the Cuneiform Inscriptions, 1850, note 1, p. 77); Werka, as the Ur of the Chaldees, and perhaps the Erech of Genesis x. 10, and the Ορεχ of the Septuagint, would also seem to be the Arderricca of Herodotus, "an Assyrian village situate between the sea and Babylon," not the Anderricca of the Persian dominions mentioned in Erato, c. xix., but the place of that name noticed in Clio, clxxxv. It appears to be a compound name from Ard and Erech, the former, rendered either in the Hebrew or in the Arabic, would signify "land" or "province." ארץ Ertz in the Hebrew, and ارض Arth in Arabic, are literally the same as the "earth" of our own tongue, the term being frequently applied also to peculiar districts or extent of country; the latter, the last syllable of the compound Αρδεριχα of the Greek text of Herodotus, may represent the Erech of our version of the Scriptures and the Ορεχ of the Septuagint. Kitto, in his Biblical Cyclopædia, mentions that the name Erech is thought by some, as preserved in that of Irak, عراق the present denomination of the country around Babylonia, but the great difference in the initial letter of the terms, the one commencing with א the other ع, would show an inconsistency not usual in words of a Semitic origin.

Bryant, in his Analysis of the Ancient Mythology, has a long dissertation on the name; the last syllable of which he assumes as identical with the Erech of Scripture, though ignorant as to the meaning of the prefix syllable of the compound, or of the precise locality of this primæval city of man. See the concluding chapter of Vol. ii., wherein also is displayed much ingenious learning with reference to the name in connection with the Αραχνη of the Greeks and the fine woven silks of Babylonia.

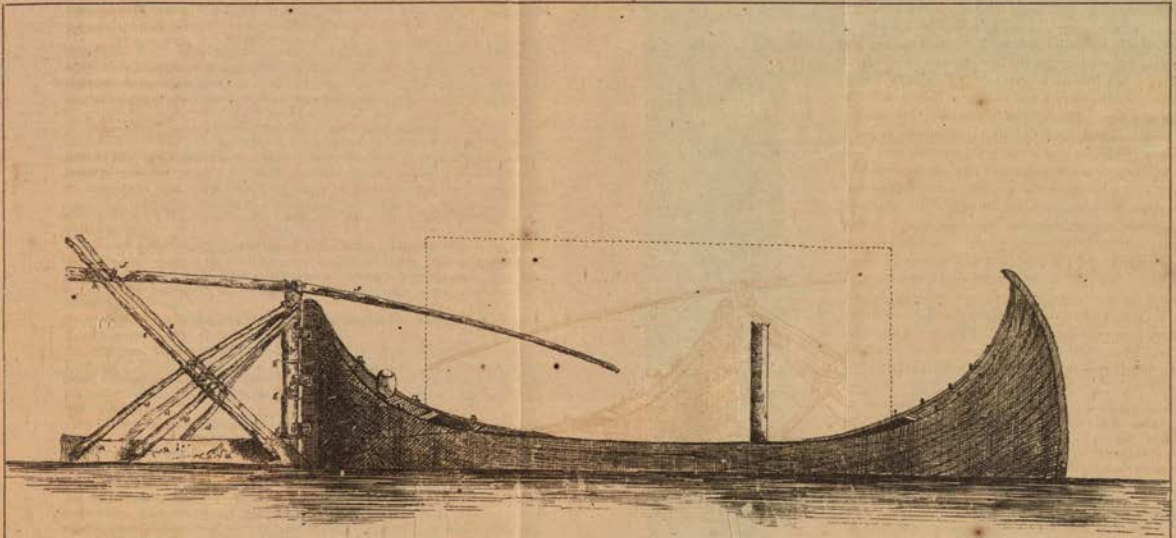
a picture, however deplorable, of the advanced state to which this remarkable country, even in comparatively modern times, had attained, though the tide of war, from the time of the greater Cyrus to the advent of the lieutenants of Mahomed, had rolled backwards and forwards in alternate success and defeat, and, whether possessed by the Mede or the Parthian, by the Greeks, the Sassanians, or the Romans, the province, we find, when free from war, in a highly flourishing condition, though perhaps not equally rich and prolific as when under the mild sway of the Assyrian kings. It has been left for the Mahomedan, however, to give this long coveted land the finishing stroke to its history. Like the victim to the Saam wind, it is yet lingering under the withering effects of the blast, its weak struggles for life, evidenced in its wire-drawn canals and miserable exchequer, notwithstanding ten centuries of oppression, showing only the strength of its original constitution. The incubus remains, however, in possession, alike indifferent to the country's improvement or to its further decay, and, while thus seated in arrogance and unconcern, the parched soil will not yield its verdure, though the element so essential to its culture flows continuously at its side; nor will the present population exert its energies to remedy so monstrous an evil, for, in addition to a national and inherent indolence, there is no security whatever for property. Now to my journey.

March 20th, 1850.—A disagreeable south wind created such a swell on the Tigris that the floating bridge* had to be removed to prevent

* This bridge has at the present day thirty-seven pontoons or boats composing it. The exact number, indeed, that Xenophon specifies as spanning the Tigris in his day at Sitaki. This speaks well for the general accuracy of the historian, for we may presume that the same species of vessel was in use, and it is certainly the most primitive, both in form and construction, that one can well imagine. It bears the name of سفينة Sifineht in Arabic, and is made of rough poplar logs, sheathed with very thin plank, coated on the outside with bitumen. The prow and stern are as box-like in shape as is possible to make them, rounded sufficiently only to prevent cube-like angles being exposed to the stream; but the rudder is the most curious piece of mechanism of the whole, and a written description would fail to convey an idea of its numerous parts and certainly useful properties. I therefore give a sketch of it, as it is as simple as curious, and might to the sailor, in want of a rudder, offer a few hints that would enable him to steer his ship when the time that would be required to make a rudder according to the methods in vogue could not be spared, owing to the vicinity of land or from other serious cause (see sketch on separate sheet). The following is its description and the use it may be put to in sea-going ships:—

a a a. The lower piece of the rudder, made of a spar or plank. It should be long or short, according to the depth intended to fix it under the surface. If to be just below the surface of the water only, the spar should be long, and the lever or tiller (*f*) intended to work it should be at least double its length, one-third over the stern and two-thirds within board.

b b. Upright piece or rudder-post, to be made of a topmast, which, cut in two pieces of convenient lengths, will perhaps make both *a* and *b*. The piece intended for *a a a* should be sawn also in two longitudinally, and nailed to the lower end of *b b*, leaving projecting ends sufficient to act as guides for fixing close on the stern-post *c c*. The rudder-post *b b* should be



The lashings at k are shifted up and down c c according to whether the boat is laden or otherwise. The dotted line shows the height of light cargoes, such as straw carried by these boats, with firewood their usual lading. the cargo is not so much piled, but in this case it projects on either side to the distance of four feet The draft of water varies when laden from 18 inches to 2 feet when light, under a foot.

injury to the boats. The horses, mules, and baggage had therefore to

flattened at the heel so as to fix the two pieces *a a a*, which, when on, must be loaded inside with stones, pigs of ballast, &c. to give it weight and to keep it firm in a sea-way.

c c. The stern-post. The native boat has holes to receive the lashings *i i i* corresponding to the holes in *b b*; for a ship, however, this would not answer, independent of the time required to make them, for it would render the whole weak, which at sea would require to be peculiarly strong. Lashings round all fastened to *b b* must be passed therefore to rag-eye, or ring-bolts driven into the sides of the stern-post, which could be done easily while the rudder is being made; and until the lashings are passed, the rudder must be kept as close to the stern-post as possible, by means of several tackles fast to stout rudder pendants *g g g*, that should be clove-hitched, while inboard, round *b b*, leaving ends on either side to reach the quarter ports for clapping the tackles on to. These in themselves, with the weight of the ballasted rudder, the projecting ends of *a a a* clamping the stern-post, and a stout upper lashing, which can be put on on deck, will maintain the rudder in its place with ease, the pendants being kept fast, even after the lashings are passed, for greater security. The lashings should be cross-seized, and in this state will act as a hinge or combined pintle and gudgeon for the rudder to turn upon.

d d d d. Diagonal spars to support the tail of the rudder. These are fixed to the head of the rudder-post *b b*, and to the tail of the pieces *a a a* on either side. The main piece of this might be a jibboom, or similar rough spar, whose heel, passing between the pieces *a a a*, might be lashed at the head of *b b*, and this, perhaps, would answer the purpose of the four pieces used in the native boat.

e e. Similar spars passing from the heel of *b b* to either side of the tiller *f*, and lashed to the spar, or spars *d d d d*, where they cross each other.

f. The lever, or tiller, working on the head of *b b*, and the upper ends of the spars *e e*. These may be termed the fulcrums, and it will be readily seen, from the length of the lever or tiller *f*, how easy such a temporary rudder could be worked by the manner of connecting *f* with the heel of *b b* (through *e e*) and *f*, fixed at the head of the rudder-post *b b* (through *d d d d*) with the tail of *a a a*.

g g g. The rudder pendants clove-hitched round post *b b*, where convenient, their ends leading to the quarter ports on either side the vessel. The sketch represents the rough plan used in the native Sifineht. It will be observed that the rudder is intended for vessels of shallow draught of water by its breadth *a a a*, and will act equally well for ships of any burthen if the length of *a a a* be increased in proportion to the decreased height of the rudder-post, which, in temporary rudders, is a desideratum, inasmuch as the great difficulty lies in securing below the water-mark. With this plan the rudder need not be two feet under water and the lashings entirely above. To the naval officer, experience will readily suggest any improvement, as for instance, instead of lashings, stout strops with selvagee tails might be secured, while inboard, round the rudder-post, at convenient distances, whose ends, when the rudder was fairly slung, might pass through the eye or ring-bolts used on the side of the stern-post *c c*, and then set taught from the poop or cabin windows by small jiggers, or by the most convenient method suggested at the time. In a well-ordered ship of war, bearing several artificers, six or eight hours should suffice to put this temporary rudder in action, and the advantages attending such despatch might be incalculable. I make no apology, therefore, for introducing so antiquated a machine to the modern reader, though a method of fitting temporary rudders may be deemed foreign to a geographical narration; indeed the traveller should notice everything within reach of his eye, and at the same time not be ashamed of copying the simple contrivances of other nations, for we may derive a hint from many an uncouth machine that, improved upon, may benefit ourselves. The vessel altogether is, indeed, a rare specimen of marine architecture, and probably has not been improved on since the flood. Noah, in this country, has had neither a Seppings nor a Symonds to succeed him in the art of ship-building, and the

pass the river in the circular baskets called the Kufa* to the western bank, a work of some difficulty at such times. The party, with myself and Mr. John Taylor, my usual companion on these tours, consisted of a dozen people (a larger number than I usually take, but necessary for the projected journey to Werka), headed by Ahmed al Kode, an Agail Sheikh, and two Bedouins of the Shammar and Dhiffyr tribes. The rest were armed Kawasses,† a tent-pitcher, and servant. Besides the usual animals, I had purchased, for the Werka journey, two dromedaries and a quantity of skins, so that I could move about independent of the known watering-places. Twenty minutes were occupied in threading the narrow and filthy streets of that portion of the city denominated the suburbs of Baghdad on the west of the Tigris, now a mass of ruins, the exterior defences or wall having been prostrated by the flood of 1839, and its material above the foundations, as appears to be the general custom, removed, either for repairs or for the erection of other buildings, unnoticed by the authorities. The day was of that sultry and oppressive character usually attendant on southerly‡ winds in Syria and Mesopotamia. Clouds of dust hung, as it were, suspended in the surrounding atmosphere, which was rendered stagnant by its density, and caused a feeling to be experienced akin to suffocation. This we not only felt ourselves, but it was evident, as we passed amid the throng, for, on the heaps of rubbish accumulated at the corners of all eastern streets, were congregated groups of two or three individuals awaiting to undergo, in turn, the operation of phlebotomy, commonly resorted to, at these times, in this country. The barbers, indeed, must

ark, therefore, which is known by the same name of سفينة Sifineht in Arabic, distinguishable only as the سفينةالنوح Sifineht al Noh, "ship of Noah," may indeed have been the prototype of the curious vessel in use at Baghdad in the present day. It is certainly very ancient, both in form and appearance.

* This peculiar species of boat was in existence in Herodotus's time. He describes it, however, as covered with skins (Herodotus, in Clio, art. 194). It is now coated with bitumen only, and might have been so in his day, for without a minute examination, the difference is not perceptible. Further on, however (same art.), he evidently confounds the Sifineht spoken of in the previous note with the raft and the Kufa; as respects the raft, the same method of disposing of the timber, &c. is in vogue precisely in the same way, in the present day, and it is still a fact that "the smaller of them has generally one ass on board." The circular boat, or Kufa, the "asphaltic coracle" of a modern writer, is by no means uncommon (that is as regards its shape) on the English rivers; and at Porto-Novo, a sea-port on the Coromandel coast below Madras, they are much used in floating the iron ores of the upper country for smelting at the foundry erected there.

† The Kawass قواس is a compound biped of great use in this country, though generally as ignorant a creature as can be imagined, a sort of soldier-servant, courier, and lictor, comprised in one and the same person, and indispensable to all that have much communication with the natives, particularly with the Arabs.

‡ The feeling attendant on and previous to the coming of a south wind is not a new one. See Luke xii. 55, and Isaiah xxi. 1.

have had a profitable day in their several Mohullahs,* if we may judge from the streams of blood that trickled down these heaps, and from the smiles of satisfaction displayed upon their countenances as, lancet in in hand, they left off to admire our *cortège* as we passed along. These close and torrid days are frequent in this month, and give one a foretaste of the approaching heats of summer. They forebode rain, which follows generally in a day or two, and then a succession of northerly winds ushers in an elastic and highly renovating spring temperature.† It would appear, however, that these south winds and sudden heats‡ form a part of the great system, for they are essential to the development of plants, hastening their blossoms, as well as assisting in the process of incubation, and thus serving to vivify insect life, while, at the same time, the species that have lain dormant during the winter are re-animated. Man's period of annoyance has then arrived, and it ceases not until the end of October. In the short space of a few days he is surrounded by every variety of insect, of which the common and the stinging fly are the most numerous assailants, in connection with myriads of wasps and drones by day; while at night, when rest is so much needed, the mosquito and minute but doubly abominable sandfly are ceaseless in their endeavours to prevent it. Frogs and toads, too, when the rivers are unusually high, are very troublesome, and hop unrestrained over every part of the summer apartments,§ or Sardabs as they are here styled.

Leaving the broken walls of the town for the open country, it occupied fifty-five minutes along a tolerable road in reaching Kathemein,‖ whose gilded domes and handsome minarets form ob-

* Mohullah signifies any distinct quarter of the town. The barbers in Baghdad still exercise the vocations of surgeon and dentist, in addition to their more regular occupations, and are equally loquacious with their western brethren.

† "The north wind driveth away rain." Proverbs xxv. 23.

‡ See note marked thus † on other side.

§ The words of the Psalmist apply equally well to the lower lands of Mesopotamia as to the delta of Egypt in these respects. Psalm cv. 30, 31. The words are literally exemplified in the present day, and, though I have not enumerated the "wee" multipede of Burns' lay and of the Psalmist's description in verse 31, still they too are not wanting, but occupy an *exalted* position in every native house. See also Exodus viii.

Sardab, سرداب is a compound Persian term, literally signifying "cold water," and applied to apartments under ground in which ice is kept in Persia; hence the application of the term to the inhabited cellars in use at Baghdad and Mosul.

‖ The Imam Musa al Kathem, the seventh Imam revered by the Shiahs, and his grandson Mahomed Taki, the son of Ali Ridha the eighth Imam, lie entombed here. The Imam Musa was the great great grandson of the ill-fated Husseyan, the second son of Ali, the son-in-law of the prophet Mahomed. He was brought to Baghdad from Medineh, the place of his residence, by the Khalif Harun al Rashid, fearing that his presence in Arabia only fomented the existing troubles; and as the Khalif's suspicion increased, he caused him, after some time, to be poisoned by his Vizier Ben Khalid on this spot. He is said to have been generous and patient in the endurance of affliction, and was much revered as the faithful guardian of the history

jects of great beauty as they stand out in relief against the sky beyond, and high above and in glittering contrast with the sombre date-groves around them,—a nearer approach, however, displays the real character of the religion and its votaries. The really handsome mausoleum is encircled with the bare and crumbling walls of wretchedly built houses, mostly of mud and rotten bricks, that form the town, which is inhabited by Arabs and Persians, with a sprinkling of Indians of the Shiah sect that have been exiled from their country for political offences, or have strayed here from a feeling of sanctity combined with a wish to prey upon their fellow pilgrims. The tomb is numerously visited from all parts of the Mahomedan world, where Ali and his race are the peculiar objects of veneration. Pomp and beggary, silk and rags, are seen jostling each other in the court of the mosque, and a halo-like fanaticism, dangerous alike to the Christian or the Jew, renders access to it impossible by these sects. Sufficient, however, is seen of the building to cause regret that but few edifices of the like architectural beauty and ornament are met with in a country where such a style is adopted. The minarets and square encompassing the dead are elaborately enamelled in a rich mosaic work, and the walls are also adorned with legends from the Koran and the sayings of holy men, executed in elegant Arabic characters, after the manner of a tesselated pavement. Apart from the decaying hovels around, the sepulchre itself would form a magnificent picture; and even now, at the distance of a mile, its double dome and lofty minarets, entirely covered with beaten gold, cannot fail to excite the admiration of a lover of the picturesque. The eve is that of Nu-Roz,* or the new year of the old Persian calendar, a day of rejoicing as well as of prayer, and the scene before us, as we pass along the road, has became more animated than usual. The sun is just casting its last rays on the prospect, the gilded minarets alone from their great height are just tipped with its beams, and resemble

and traditions of his unfortunate house. His death took place in A. H. 153. His grandson, Mahomed Taki, the sharer of his tomb, was so much esteemed by the Khalif Mamun that he gave him his daughter in marriage, and he afterwards accompanied his father-in-law to Baghdad. The relations of the Khalif, however, were not pleased at the step, and it is supposed that he became another victim to the existing hatred against his race, by being poisoned at Baghdad in the twenty-fifth year of his age. He was buried with the pomp due to his position in the Khalif's family by the side of his grandfather in the tomb of the Koreish, as D'Herbelot terms the sepulchre at Kathemein.—Vide *Biblioth. Orient.* tome ii.

Kathem in Arabic signifies "generous," and was the title of the Imam Musa; Kathemein, the name of the modern town and tomb, is the dual of the term in reference to father and grandson; the Arabs, however, usually use the singular Al Kathem only when naming it. The domes were last gilt, I am told, by the celebrated Nadir Shah.

* نوروز Nu-Roz (Persian), the day of the vernal equinox and the commencement of the old Persian year. It signifies literally "new day," and is a day of great rejoicing with the Persians.

as many stars in the distance guiding the multitude to the shrines. We pass individuals of every feature and race. The wanderer from far Thibet and Cashmere, the Affghan and the Persian, the Mogul and the native Arab, both horse and foot, are proceeding to take part in the festivities of the ensuing day. Others have spread their carpets or their cloaks by the road side, and, kneeling in the attitude of prayer, are performing their devotions with an energy that might be considered sincere, did we not know the character of the people. Turned towards the Keblah of their faith, their countenances exhibit every variety of feature, and, perhaps, in no place of the same extent can be remarked so many forms of the "human face divine;" nor is the antithesis wanting, for in similar numbers of the species, wherever congregated, there would not be displayed, perhaps, so many of the bad propensities of our race; on a sudden excitement, all the evil passions are called into existence, of which ungovernable rage, inordinate desire, and duplicity are the most prominent. The expressive features of the Arab, however, joined to his picturesque garb, the keenness of his eye, and independence of manner, with his weapons on the carpet by his side, evince a superiority in race, and, though humbling himself in prostrations and prayer,* the same inherent fierceness can be distinguished in his glance that spread his doctrines among so many nations, and doubtless at this moment he is as personally ready to draw the weapon in defence of his creed as were his ancestors in its promulgation.

Leaving the Kathemein gardens, which are of some extent and beauty, we enter suddenly upon a district termed Taji, now a complete desert in all respects, excepting only a strip of cultivation extending in no case above 300 yards from the river; indeed, during great inundations or even in moderate rises of the river, the marshes of Akr-Kuf, formed by the overflowing of the Euphrates fifty miles distant, connect themselves with the Tigris, and envelope Kathemein and its gardens, as islands, in a wide sea of water. Baghdad and the gardens in its neighbourhood, though better cared for, have, for the last two years, suffered a similar fate, owing to the apathy of the authorities in not repairing the bunds in time; and the town is not only isolated, crops destroyed, houses injured, fruit-trees decayed, but the receding rivers leave behind them, on the surface of the plains, vast marshes which create not a thought in the Government to drain. The consequence is, as we have experienced the last two years, these lakes, as they become stagnant, are converted into fetid and unwholesome swamps. By the middle of June a rank

* The Koran forbids the wearing of weapons or even iron of any sort on the person during the performance of prayers at any time. How different this from our church parades, where side arms are enjoined as part of the ceremony in the military officer and the soldier.

reed has grown within them to a height of several feet, at which time a torrid sun, until the end of October, is slowly evaporating the moisture, and leaving slime and vegetation festering under its rays. An atmosphere thus poisoned has to be inhaled by the population at a time when the tremendous heats are scarcely bearable by man; and fevers, exhibiting in many cases a fatal type, assail, with few exceptions, every man, woman, and child in the Pachalic, from Samara to the Persian Gulf. Basreh and the lower country within the influence of the humid air of the sea is at these times peculiarly fatal; but to the north, owing to a higher soil and a drier atmosphere accelerating evaporation, the period of its malignity is short, and decreases monthly in its ravages. Relapses occur, as regular as the spring tides on a sea-coast, with the full and change of the moon in almost all cases.

The effects, however, may be imagined on a population composed principally of poor, without medicine of any sort; and to this chiefly must be ascribed, in my opinion, the annual decrease of the myriads that formerly peopled the fertile plains, for these inundations have occurred more or less from time immemorial. History, indeed, furnishes us with the ravages made by these floods* even in periods when a well-regulated Government managed to keep the substantial bunds necessary to the country in constant repair. Can it then surprise us, if the imbecile measures that have been grudgingly adopted, since the modern Persian and the Osmanli idler got possession of the soil, have failed in effect, or have tended still further to deteriorate the jewel that fell to their share during periods of universal anarchy and confusion? The wonder, indeed, is, that it still remains intact, however tottering, amid the visitations of Pachas and disease. For the former there is no remedy, I believe, as long as the Turk and the constitution of Turkey remain the same; the "leopard cannot change his spots," nor the Turk divest himself of his character alike remarkable for avarice and pride. The latter would, however, soon vanish under a Satrap of a well-ordered empire; for the climate, when uncontaminated with malaria, is naturally, perhaps, the finest in the world, and in this I speak from a long experience. The fevers, indeed, as they are, readily yield to febrile remedies, and the precaution of taking quinine a couple of days previous to the

* All historians dwell more or less on the ravages made by the neglect of the dikes, and on the marshes existing even in the vicinity of the capitals, from a very early time. In some cases these offered material obstacles to the invader from the difficulty of crossing them with troops and heavy engines of war. In others, their pestilent nature lent its aid in thinning the ranks of the enemy, while, at the same time, it created sickness, though in a less degree, to the assailed, for they must be supposed to have been partially inured to its effects. See Yakat, in Majan al Buldan on the Katuls, Nahrwan, and other canals; Zosimus, Corpus Historic. book iii. in his description of Julian's march against Ctesiphon; and Masudi, Sprenger's translation, vol. i. pp. 254, 255, in particular.

coming on of the lunar changes, in general, prevents a relapse. Even at this time, though a year has elapsed since the last flood, the marshes around Akr-Kuf are within two miles of the Tigris, never having dried up, as they usually do, during the whole of this period.

By dusk we had reached the bank of the Tigris, where we joined our dromedaries and the cattle that had gone on ahead. The steamer was also here for the purpose of displaying flags from her masthead, which can be seen at a considerable distance inland, thus enabling me to fix my position with great accuracy from day to day; she moving to allotted stations on the river, determined at a former period, while the party makes similar marches by land. Spreading our carpets on the bank of the river in the open air, our recollections of the events of the day grew gradually more and more confused, until they were finally lost sight of in a deep sleep, such only as the wanderer knows. It did not last long, however, for some heavy clouds succeeding to the southerly wind of the day foreboded rain before evening set in, and heavy drops fell by no means agreeable to those who have but only one suit of clothes to their backs. It cleared up in a few hours to our delight, leaving us only a little damp; and a brilliant sky, only known in these latitudes, became our canopy, instead of the thick coverlid that threatened a deluge before morning.

The paddles of the steamer set in motion at daybreak summoned us from our carpets to the saddle. The whole party was soon mounted, for a terrier-like shake, to fix one well in his boots which are usually slept in on these expeditions, completed the toilet, and a twenty-eight minutes' advance to the westward over a bare country, evidently often submerged, brought us to the high embankments of an ancient canal,* that is now termed Serakha, from a ruin occupying its bed, which I shall afterwards speak of. One mile north-north-west of this spot a deep hollow, named Ahweyneh,† receives in the high seasons of the river, when the country is inundated, a body of water now forming a small lake, which, I am told, remains unabsorbed during the whole of the summer. We can trace the canal extending further to the south-south-east, in the direction of Zobeide's‡ tomb, but it is said to be lost before it attains to that distance, and the numerous offshoots, still well marked about this spot, on either side of the trunk stream, show that in the neighbourhood it had reached to its limit of irrigation. A small tomb stands on its mounds about one mile south-east of our position, and immediately to the west of the Kathemein groves. We now rode along the bed of the

* See Appendix A. The observations, bearings, &c. taken on this tour will be found in the Appendix, so as not to interrupt the course of the narrative.

† Appendix B.

‡ The last resting-place of the celebrated lady of the name in the Arabian Nights.

old conduit, which winds more than is usual with these ancient works. Its breadth is about 15 to 20 yards, and the quantity of brickwork seen on either side shows that its banks were well peopled by a fixed community. Many irrigants were fed from its waters; indeed, so numerous are these, they forcibly reminded me of the canals described by Xenophon which the army crossed after passing through the Median Wall.* In ten minutes we had reached a similar lake to Ahweyneh, but of somewhat greater extent. The circular form and perpendicular walls of these extraordinary hollows mark them as the work of man, probably in a remote age, but for what purpose, unless as artificial adornments to palaces that may have been erected on the sites, it is difficult to determine. Both Ahweyneh and this lake, which is named Serakha, abound in fish, tortoise, and the peculiar fan-tailed turtle of the Tigris, and seem to be of considerable depth; their diameter may be 150 to 200 yards. A ruin of a very massive character, and certainly of great age, is seen on the east border of the Serakha lake; the old canal that we have ridden along having been apparently led over it, for digging through its bed exposes the structure beneath, which is built of large kiln-burnt bricks imbedded in bitumen, and, indeed, is the only ruin in this country that I have seen which answers in its construction and material† to the detailed description given by Xenophon of the Median Wall.

I am not, however, going to discuss, at present, the often attempted question of identity of the το Μηδιας καλουμενον τειχος of the Anabasis, but merely to state the existence of things, as I find them, contenting myself, however, with advocating the venerable character of this ruin, not from its appearance alone, but from the fact of the waters of the canal itself, when in existence, having flowed over the pile, and, if aught more is wanting to give it a claim to a high antiquity, we have, buried in the bed of the canal above it, in a straight line with its course, a nicely arranged and continuous tier of sepulchral urns amounting to thirty-four in number; I tried in vain to extract a perfect one, but they crumbled to dust on exposure to the air. In shape they differ from most of the urns disinterred on this soil, and, though lined on the inside with a thin coating of bitumen, their contents, except in being more damp, were not distinguishable from the earth of the surrounding soil. The ruin and canal, indeed, derive their names from the peculiar form of this urn, though I was at first inclined to view the term

* Xenophon, Anabasis, book ii. From thence (the wall of Media) they made in two days' march eight Parasangs, and passed two canals, one upon a bridge the other upon seven pontoons. These canals were derived from the Tigris; from them ditches were cut that ran into the country, the first broad, then narrower, which at last ended in small watercourses such as are used in Greece * - * *. Thence they came to the river Tigris, &c. at Sitaki.

† Anabasis; Spelman's translation, book ii. p. 33.

Serakha,* as an ancient one, whose meaning was unknown in the country at the present time. The bricks seen here are of the size and shape of the Babylonian period, though I could not discern any stamped characters similar to those found in the most remarkable Babylonian structures; indeed, this peculiarity may have been in use only on the material of the more sacred edifices, and as at the Kasr, on the recognised site of Babylon, the ordinary buildings, whether palaces or of other public character, may have been constructed of bricks of the prescribed size, without bearing the legendary tablet. I have, indeed, heard from others that the cuneiform stamp had been seen on the bricks brought from hence. The number of shafts sunk in the soil attest, however, that a vast mine of material exists here and in the immediate vicinity, did not the caravans of asses passing to and fro between Baghdad and Serakha, laden with bricks of a large size show the extent of the city that once occupied the country contiguous to the Tigris and the canal; when we reflect, too, that this has been the store from whence these supplies have been derived, perhaps for some centuries past, the mind will not be at a loss to comprehend the magnitude of the cities named by sacred and profane writers, as existing on the soil; a surprise rather will be expressed, that, notwithstanding the devastation of war, the trade in material, the ravages occasioned by the destruction of canals, and the annual overflowing of the rivers, so much is still left for the modern traveller to contemplate, and, if possible, to connect the present with the past.† The finding of urns entombed in the

* Serakha سراخی signifies an elongated earthen vessel.

† In the indulgence of the license generally accorded to travellers, in the absence of more positive grounds whereon to establish the identity of places, I take the liberty of suspending "a castle in the air" over this antiquated spot, by venturing to pronounce the locality as the position, in my opinion, of the Sitaki of Xenophon. This is not advanced from a desire to indulge in any theory of my own, but from a consideration of the itinerary of the Ten Thousand in the Anabasis, from the extent and position of the ruins, and, more than all, on the half-expressed ideas of Major Rawlinson, who some time back, on digging in the suburbs bordering the river to the west of the modern Baghdad, in a very low season, discovered, below the usual low-water marks, the foundations of ancient edifices whose bricks were inscribed with the cuneiform character (see note, p. 302, Bengal Asiatic Journal, April 1847). From the modern Baghdad, on the west of the Tigris, to Serakha and the ruins under consideration, may have been the extent of the city and its environs. Xenophon, in the Anabasis, book ii., distinctly says (without reference to his usual distances of Parasangs, and accordingly leading to the supposition that the positions were contiguous) that, after passing the canals, "they came to the river Tigris, near which stood a large and populous city called Sitaki, at the distance of fifteen stadia (a little less than two miles) from the river." A glance at the map which accompanies this paper will show the distance of the bend of the Tigris with reference to Serakha and its ruins, agreeing in all respects with that of the military historian; the nature of the country, if we may judge from the canal; the remains still *in situ* between it and Baghdad; the present position of a pontoon bridge of a similar number of boats to that mentioned by Xenophon, which perhaps has remained the chosen spot of crossing; from the fact that orien-

bed of the canal attaches more than ordinary interest to the spot, for their number and regularity of interment would mark it, perhaps, as the scene of a conflict while the canal was in the course of formation.*

Still following the course of the Serakha aqueduct, a nine minutes' smart walk brought us to other extensive ruins now termed Suk,† سوق a bazar or market-place. They occupy both banks of the canal, which here makes a short bend, and was also led off, when in operation, into minor branches, one on either side, to the east and to the south-west. These ruins, as far as can be judged from a surface view, are comparatively modern; from the excavations going on, however, the foundations of houses show that they belonged to substantial buildings at one time, and perhaps were a continuation of the ancient city we have spoken of before, for, between it and Serakha, the smaller irrigants are abundant, while to the north of the two larger ducts described above they are only occasionally seen. Here we quitted the course of the Serakhá, which now takes the name of Al Suk, and can be distinguished as coming in a tolerable straight line from the north-north-west, as far as the eye can reach.

Keeping now a course of north-west by north, to the left of the line of canal, we crossed a country without a blade of vegetation, beyond occasional patches of a reed-like scrub, indigenous to marshy tracts. In fact the extensive marshes now in the neighbourhood of Akr-Kuf have but slowly receded from this position since the inundation of last year. An hour (less three minutes) was occupied in reaching a place where a deep hollow shows that excavations have likewise been carried on to some extent for the sake of building material for the modern Baghdad. The place is known now as Hammamat, "the baths,"‡ and, from the depth of the foundation, there would appear to have been originally some large building erected on the spot. Beyond some well-baked bricks and the distinction of a thicker cement of a very fine lime, it differs not in character from the other ruins. It derived its water from the Suk or Serakha canal, as did also, I think, a high mound of

tals are averse to any change in the order of things when once established; all tend sufficiently well, I think, to indicate the position of Sitaki; and, moreover, the distance of the bridge from Opis, if the difficulties of a canal country and the harassing nature of the marches undertaken in the face of an active enemy, be reckoned, will further accord in corroborating it, even if no indulgence, on the score of errors, be allowed to the early geographer, who, we are led to believe, wrote most of the Anabasis from memory alone, subsequent to the return of the expedition to Greece.

* For the bearings observed at Serakha, see Appendix C.

† See Appendix D.

‡ Hammamat, Arabic plural of Hammam, حمام "a bath." See Appendix E, for determining its position and that of Tel Abdar.

ruins known as Tel Abdar,* about a mile to the south-west of it (which we did not visit), for we passed two large ducts emanating from the Suk on our way here.

Leaving Hammamat we crossed to the north-east over a country of the same uninteresting character. In thirty-one minutes we again stood on the Serakha, or rather the Suk, as it is now called, among heaps of ruins denoting the situation of another large town in the days of the country's prosperity. The surface of these mounds, perhaps from being more elevated at this part, exhibits broken pottery in great abundance, as well as pieces of glass and other scoriæ. We continued onwards after a few minutes' halt, and in thirty-eight minutes from the Upper Suk† reached a large mound on the west bank of the Tigris, that bears an appearance of a greater antiquity, and perhaps, were it excavated, would, like Tel Mahomed and other mounds of similar aspect, yield some relics of a Babylonian age and character. It is known as Tel Goosh at the present day.‡ Its circumference may be about 300 yards. At this spot the districts bordering the river, named Taji and Mazurfeh, extending from Kathemein, terminate; the former at Sheriy'at al Beytha, a well-known easy descent to the river, where cattle are taken to drink, and in the neighbourhood of which the Bedouin plundering parties generally hover in search of prey. The name is from Sheriy'a, شيعة "place of drinking for cattle," and Beytha, بيض "pure."

These districts are void of date-trees, which do not extend on this side beyond the village of the Imams; they are cultivated by families of the Jebour, the Batt, and the Dellim, who have migrated from other parts; and a small tribe of Albu Sakr lead a nomade life in the desert west of it, around a ruin termed Stehh, which I have not yet seen, but they are entirely pastoral and of the Sunni sect of Mahomedans.

By the time we had reached Tel Goosh every object had become obscured by clouds of fine sand that were suspended in the surrounding atmosphere, giving out a lurid red haze, quite painful to the eyes, as it

* I am inclined to view this name as an old one in the country. Abdir, or Abadir, was an appellation of the deity in olden times when "serpent worship" formed the religious creed of early mankind. Bryant, in his Analysis of the Ancient Mythology, makes Abdir the same personage as Opis under a different denomination (see vol. i. p. 476). The Arabs at present attach no meaning to the term, though, if it be the superlative of بدر Bedr, it will signify either "most plentiful," or "completest."

† The Upper Suk, see Appendix G.

‡ Tel Goosh; Appendix H. I really cannot say, what the etymology of this term (Goosh) may be. Tel تل is the common Arabic expression for "an eminence" or "mound," and Goosh as it is pronounced, but spelt كوشر if an Arabic word, has no meaning that I can discover. When the Tigris flowed in its ancient bed, Tel Goosh, it seems to me, stood upon the east bank. The country is so cut up by the marsh, that it is now almost impossible to speak with any certainty.

was urged along by the breeze that was blowing from the south. The heat and oppression were worse, if anything, than yesterday, and we were glad, therefore, to shelter ourselves under a small Bichoba,* carried for the protection of the instruments in case of rain. This was pitched in a fine field of barley under the lee of the mound, and shelter had scarcely been obtained when the weather became doubly thick, shutting out from view even the date-groves on the opposite side of the river, rendering a further progress impossible. To add to our distress, the poorness of the place, though within ten miles of the capital, could not supply us with a lamb or a draught of sour milk to season our meal, which otherwise was amply enough furnished from the saddle-bags. We could not, however, dispel the gloom around, and therefore awaited patiently within our circumscribed horizon of ten yards until the curtain should be raised by a down-pour from the north-west, which, the clouds congregating in that quarter towards sunset, threatened before the morning. These appearances were not belied, and by midnight we had a succession of squalls from all parts of the compass, attended by thunder, vivid lightning, and rain. To sleep was out of the question, amid the chaos of noises. Between the thunder-claps, the snorting of the frightened horses that had broken from their fastenings was commingled with the heavy sound of their hoofs and the anathemas of the grooms, launched forth in the choicest *patois* the Arabic affords, as they drove them toward the tent, which these worthies regarded only as a net, from its many lines, to catch stray cattle in. Added to these, the violent gusts of wind, veering on all sides, brought the rain in upon us, and kept us in an unenviable state amid the impenetrable darkness of a night like Erebus. Every instant we expected the tent would be swept from its fastenings, loosened or torn up as they were by the floundering of the horses amongst them, but our Nusseeb,† as the Arabs say, was in the ascendent, for with the dawn the veil was removed, and all traces of the previous clamour had subsided as the increasing north-west breeze drove the heavy vapours to the south. The drowsy grooms, wrapped in their wet Aaba's,‡ shivering with the sudden cold, were now assembled in groups around half-lighted and sullen fires, awaiting in anxiety the rising of the sun, whose appearance was welcomed by every one; the picketed horses even, neighing aloud, expressed a delight which we ourselves felt at the change since yesterday. By half-past ten the fog

* This word has become Anglicised of late years. It is a compound Persian word, signifying a tent which has no pole. From بی Bi, "without," and چوبا Choba, "pole" or "stake."

† Nusseeb نصیب "fortune," or "destiny,"—the Arab equivalent of the Persian Bakht, بخت.

‡ Aaba's عباس a mantle of either goats' or camels' hair universally worn; the latter are of superior texture.

that lingered on the ground was dispelled, and having taken the observations for the position of Tel Goosh* we resumed our march to the northward.

Entering upon the districts of Suadiyeh, a cultivated strip only, adjoining the Tigris north of that of Taji, it occupied two hours over a desert covered only with a parched-up scrub, here and there dotted with the broken lines of the Suk canal, in reaching the deserted building known by either name of Khan Tarmiyeh† or Suadiyeh, being erected on the border of both districts, Tarmiyeh immediately adjoining that of Suadiyeh to the north. Like all other works of the kind, it is of a square form, but larger than most Khans in this country; constructed entirely of kiln-baked bricks, and boasting of a fine entrance and other ornamental work, it must have cost a considerable sum to erect. It has a double range of vaulted apartments on each side and a capacious area, both capable of holding, I should say, a thousand men with their merchandise and cattle. The high road to Mosul, as late as fifty years back, led along the west bank of the Tigris, through the Dijeil districts past Tekrit and Khan Kharneineh, a similar building just to the south of the Jebel Mak'hul, thus shortening the time occupied at present, on the road east of the Tigris, by three days. Since the vigorous days of Daud Pacha the line has been abandoned, the encroachments of the Arabs, and the power the Shammar Bedouins had attained to, under the celebrated Sufuk, rendering it impassable even as a pilgrim route to Samara; unless, indeed, a large body of armed men were retained at the private expense of the parties, as an escort on the journey. A dried-up well, facing the doorway, formerly afforded a supply of water sufficient for the purposes of the establishment so long as it yielded moisture. The Bedouin hordes resorted to the spot, after the commercial path had been abandoned, and by way of pastime amused themselves (while on the look out for prey) in demolishing the interior; one pulpit, and the platform whereon the inmates congregated for prayer within the building, are still perfect, but the other has been wilfully thrown down a few years back, it is said, by a lawless band of Shammar. The ruins of an old Khan are seen about a mile

* See Appendix H.

† Appendix I. Khan or Caravanserai, buildings at fixed halting-places on the great plains leading from city to city. Their erection is recommended in the Koran as a pious work, and the great roads of commerce in former ages were well furnished with them. The irruption of the Arabs, and the general insecurity consequent on the weakness of the Government, have served to ruin many of these useful edifices, nor, for the same reason, are charitable works of this nature at the present time persevered in. Herodotus mentions them in his day under the name Καταλυσεις, and they doubtless existed from the earliest periods of communication between countries in the east. See Heeren's Asiat. Hist. vol. i. p. 31, and note *q*, where he has an excellent paragraph on the construction and use of these places of accommodation.

south of the present structure, and a deep indentation in the soil shows that the old course of the Tigris either led this way, or later inundations of the Tarmiyeh lake have found a vent in this direction on their way to join the marshes around Akr-Kuf. The Arabs located in the vicinity are the Suadiyeh and Meshahedeh, who cultivate the west bank of the Tigris between Tel Goosh and Jedideh. They are Sunnis; but a Shiah tribe, named Khasrej, wanders in the vicinity of the Khan and the Tarmiyeh, whose occupations are entirely pastoral.

Despatching a Kawass* across the country to Jedideh with instructions to move the vessel to the next appointed station of Sindiyeh, we awaited his return at the Khan, as well as to obtain shelter in the hea of the day, which, in this month, begins to be considerable. By 2 P. M., however, we had mounted, and, keeping a course of 343°, traversed a bare plain without anything to relieve the monotony of the journey, excepting occasionally crossing branch lines emanating originally from some large canal which, I am told, passes a little to the east of the line of our route. The glare from the arid tract was very painful. An hour and a half's ride from the Khan brought us upon the large canal alluded to, and called by the Arabs Nathriyat.† It comes from a direction of north-north-west, and is considerably elevated above the surrounding country, with high steep banks on either side of its bed, from whence, indeed, it derives its modern name of Nathriyat. Like other conduits used for conducting water from a hard soil on a high level to depressed alluvial districts, the course here is very sinuous, to break the force of the stream and to give an easy descent to the element into the plain, in the same way as horses or men take the diagonal slopes in the descent of a hill instead of the steeper and straight path. This spot is on the verge of the tertiary and alluvia; the surface-soil here changing as you proceed north from argillaceous earth to pebbles, which latter increase in size as you progress upwards; as yet, however, they are here mere washings as at Akr-Kuf, and a line drawn directly south from Khan Dholöiyeh to the east of the Tigris through Nathriyat, Akr-Kuf, onwards to Khan Iskenderiyeh on the road to Hillah, will define the exact geological separation of these surface-soils in this part of Mesopotamia. From Dholöiyeh northwards, the course of the ancient Batt canal may be considered the division until approximating the Hamrin hills when the line curves abruptly to the east-south-east, in a direction with these well-

* Kawass, see note to page 220.

† Nathriyat is the plural of Nathr نظر "observation," and attached by the modern Arabs to the elevated mounds on this canal, implies "look-out places," from its being a favourite resort of the predatory Arabs, who, stationing one of their party on the summit, see to an immense distance round, remaining concealed themselves in the bed of the canal, until it suits them to issue forth and sweep off flocks or caravans that may have strayed within reach of their vision.

known ridges, at a distance from them, varying from four to ten miles, perhaps, in extent. But to resume. Immediately to the east of Nathriyat, between the canal and the Tarmiyeh lake, now well supplied with water, formerly stood a large city known only as Abu Sakhr* by the people around. It was upwards of a mile in diameter, and is now quite levelled, excepting only a single mound, with the soil it stood upon; the surface of which, however, exposes its extent in being strewn with bricks and a very fine pottery. Besides these we obtained coins much corroded and crumbling to pieces on the touch, beads and glass of a fine manufacture. The devices on the pottery were fanciful enough to induce my friend, Mr. John Taylor, copying them,† and some rude figures of animals in terra cotta would, perhaps, assign to the ruins a pre-Islam era, though doubtless existing as a town since the Mahomedan occupation of the country. The Tarmiyeh waters are collected in a hollow of the country immediately east of this, and derive their supply from the Tigris by a canal cut from the west bank of the river opposite to the village of Mansuriyeh, the name of a large date-grove and gardens situate on the east bank of the Tigris, but irrigated by the Khalis canal. The lake is exceedingly pretty at present, surrounded as it is by a margin of short green verdure, dotted with the tents and flocks of some families of the Khasrej, who politely sent us a lamb and a bowl of sour milk, the latter a great luxury after a hot march.

Leaving most of our party bivouacked on the margin of the Tarmiyeh, we cantered to the high banks of the Nathriyat, from whence a good view of the country was obtained, though our proceedings evidently alarmed the inmates of some camps of the Khasrej and Makadmeh Arabs, which are at a distance on the Desert to the west. Setting up the theodolite, through its telescope we could see the men girthing up their horses kept constantly saddled at the threshold of their tents for pursuit or attack of the foe, while the women were giving the alarm to the shepherds and those in charge of the camels to hasten the gathering of the flocks around their respective hamlets before the expected swoop should be made upon them by the hawks of the soil. When these had been called in, they felt themselves comparatively safe (for the plundering parties seldom attack a pitched camp, unless professedly at war, knowing the hearth will be defended to the last), they sent out scouts

* Abu Sakhr, evidently a modern name of the wandering Arabs. Sakhr صخر has reference to the "gravelly" or "pebbly" nature of the soil in this part, and Abu, "father," is the usual metonymic epithet in vogue amongst these ignorant people. Rendered into English it conveys no meaning whatever, and is used much in the same way as a familiar insect, a species of *arachnidæ*, is known to the English school-boy by the title of "*daddy* long legs."

† They accompany the paper, and, to any one learned in these ancient symbols, they might convey the era of their locality, as monograms on coins, in the absence of other legends, enable us at times to identify the period in which they were struck.

to ascertain the nature of the alarm ; seeing, however, that we kept our position, and fearing an ambuscade in the bed of the canal, they stood aloof at a wary distance and keenly watched our proceedings. In the mean time we had obtained a good set of azimuth bearings and a round of angles to all the objects within range of our view,* and, descending the mounds after the sun had set, soon lost sight of our alarmed friends by a retreat upon our own position, where the evening meal, enflanked with bowls of buttermilk, spread out on the rich green sward, awaited our coming. Going through the necessary ablution, the fingers were speedily in action in doing honour to the lamb of our entertainers, the Khasrej, having at the same time an occasional regard to the cool liquid within the capacious bowls by our side. We enjoyed this the more from a contrast with the gloom and bad fare of the preceding night; for now a brilliant moon floated over head, and the night was of that mild kind, that we slept in our clothes upon the carpets, without other covering of any sort.†

The following day (March 23rd), after the latitude had been obtained, we quitted the ruins of Abu Sakhr, first replenishing our water-skins from the Tarmiyeh lake. Our course was now north by east (true) over a country that at one time had evidently been well watered, but now as bare as a snow tract, with the exception of the broken pottery with which it was strewed and which marked it as the former abode of a numerous population. Twenty-two minutes' march from Abu Sakhr brought us to some heaps of bricks that pointed to the site of a village of a more recent date, yet perhaps of the age of two or three centuries back. These ruins are termed Walaiyat‡ Zaheyri. A deep dry hollow to the south-east was pointed out as once the position of the Zaheyri lake. It doubtless joined that of Tarmiyeh, and, I understand, was the reservoir which received, in the flourishing period of the Dijeil canal, the superfluous waters of that stream, during the spring rises of the Tigris. Continuing on towards Kef 'Ali, we passed several tumuli of ruins that

* Appendix J.

† There is something indefinably pleasant in nomade life and in bivouacking in the open air, for there is a sense of freedom and independence connected with it scarcely imaginable by the dweller in houses and the occupant of confined rooms. The air, too, is deliciously pure in these wilds, and, coupled with the invigorating march from day to day, would, in the winter months, soon restore the most enervated invalid. I have often wondered, indeed, that Indians in search of health have not wandered as far as Mesopotamia, where, in addition to the health-restoratives recorded above, so much is to be found to interest the traveller and *ennuyé*. Darwin, in his instructive and amusing Journal of a Naturalist, characterises these wanderings as "inexpressibly charming," pp. 69 and 257; and I quite agree with him. To be able to pull up your horse at any time and say, "Here we will pass the night," away from the cares of life and the bustle and ceremony of crowded cities, is a luxury, indeed, and an unknown one to the inexperienced.

‡ ولاية This word here signifies "a lord or master;" the name is applied also to "dominions."

connected Zaheyri with the old town of 'Akbara, whose ruins we reached in exactly an hour from Abu Sakhr. The tomb of Kef 'Ali, a very venerable building fast tottering to its fall, is the only erect portion of this once magnificent town, whose mounds now cover a space scarcely credible, considering the modern aspect of the country and its dwindled population. The Tigris, as it swept onwards in its ancient bed, washed the walls of this great city, separating it from the Walaiyat Zaheyri (probably the suburbs of 'Akbara); 'Akbara itself was divided by a small stream called the Shatayt, or lesser river, whose deep but dry bed is now seen winding to the south-east onwards towards another ruined city, that of Waneh, also a celebrated spot in the more recent history of the country, finally, to join the larger bed at a little distance to the south. This latter is, however, very indistinct in the neighbourhood of 'Akbara, for the Dijeil irrigants, when they reached thus far to the south-east, were brought into its channel; the spade and the ploughshare in a great measure obliterating its course and turning its ample bed, that was formerly covered with waving masses of water, into fields of waving corn, in their turn again to become an uncultivated waste, now unblessed with a drop of the element with which it was once so richly endowed.*

* Thus nature changes her aspect, and not unlikely works out the great problem of our existence. Smiling fields and green pastures become a wilderness, and refined kingdoms merge into barbarous states, in order, perhaps, to establish a progressive civilisation which we have seen for ages spreading from east to west, leaving those that were the most enlightened so far back in the shade of years that, were it not for history, they can scarcely be recognized as the parent stock of the many races now inhabiting our globe. In considering the various phases which nature has assumed in this country, too much has, perhaps, been attributed to prophecy, especially by modern writers, who, to carry out a text of scripture, have in some instances been so keen of perception as to see in detail, at the present day, the whole of the evils the inspired writers have denounced against fallen Babylon. It requires little foresight, indeed, to depict the destruction of cities situated on the margin of great rivers such as these, particularly when the authorities and people are either so absorbed in luxury, or are so apathetically indifferent to the destruction annually going on, from natural causes alone, as to neglect the necessary precautions for the public safety, which, daily endangered, is unheeded, though both foreseen and foretold. Universal and sudden ruin must succeed to such neglect, and cities thus thrown down by the waters are no longer habitable places for man, at least for some time to come. While, however, acknowledging the wisdom and inspiration of the prophets of old, we can hardly help smiling at the zeal of many who have endeavoured to develope the accuracy of their predictions, sometimes, perhaps, at the expense of truth, and at others regardless of the ridicule which such morbid narration must excite in persons who follow in the same path. These thoughts have been suggested by seeing in a recent excellent work (Kitto's Biblical Cyclopædia, under the head of Babylon) a plate of the "site of Babylon," with a maned lion of the African species proudly occupying the crest of the ruin it pretends to represent. Independent of the species being unknown in this country, I am led to believe that the habits of the animal would not induce him to select so prominent a position as the brick summits of these elevated mounds. The learned compiler, however, has been drawn astray, I consider, by the too forcible description of Sir R. Ker Porter, who distinctly states to have seen "*two or three majestic lions*

'Akbara, though but partially noticed in any of the MSS. which I have been able to see, must have been an important place, if we judge from the extent of its elevated heaps of ruins alone, and owed its abandonment, in all probability, like the other towns in its neighbourhood, to a great and sudden change the Tigris underwent, but at what precise time it is impossible to say. Abulfeda, who wrote at the end of the seventh century of the Hejirah, notices 'Akbara عكبرا as a mere vil-

taking the air upon the height of the pyramid of the Birs Nimrud." Having visited this ruin frequently, at all times of the year, and, moreover, heard the expressed opinions on this subject from many others who have wandered over these desolated heaps, I cannot help regarding the excellent and generally accurate traveller's "lions" as nothing more than jackals, or at most hyænas, which certainly are to be found, not only in these ruins, but in abundance in the surrounding country. I do not say the lion does not exist in the vicinity. On the contrary, it is to be found both on the Euphrates and Tigris. Its habitat, however, is not among the ruins, but in the tamarisk groves that form the strips of jungle along the margins of these streams; and perhaps, Babylon, from its being occupied by the modern Hillah, its gardens and cultivated tracts, both above and below the town, is the least likely place to meet with this animal. I have seen it to the north and to the south of the historic site, but never in any part usually considered as Babylon proper. It is a fallacy, too, to suppose "that the Arab does not pitch his tent there," for encampments, flocks, and cultivation may be seen in various portions of the open spots of country, particularly during winter, when a shelter is obtained beneath the mounds from the cold north-west winds. It may be argued, that the prophecy alludes to the mounds themselves; if so, as I said before, inspiration is not needed, for any one may augur that the Arab will not pitch his tent upon fractured bricks and broken glass, which, however well adapted as a suitable bed to the blind zeal of a devotee, but ill accords with Arab notions of ease, for, though regardless of luxury, their camps are not devoid of the comfort a smooth plain will afford; nor, indeed, do these materials of the mounds constitute them the best pastures for cattle, nor, by reason of the nitre and ammonia in the soils covering old cities, is the earth best suited for vegetation, yet there is no want of it in the spring and autumn when the tribes are at peace with the Government. Sir Ker Porter may have visited these plains when it was not seed-time, and thus drew his conclusions, of the "ground being naked of vegetation," too hastily. The description he gives of the face of the country, "its half clay, half sandy surface being left in ridgy streaks, such as is often seen on the flat shores of the sea after the receding of the tide," being the actual furrows left by the ploughshare of the preceding year, softened down only by the method of irrigation and the muddy nature of the soil, and not the effect, as he would wish to convey, of a wave-like rippling, caused by a sea of water, though doubtless it is inundated, and that frequently, but not more so than other lands on both the Euphrates and Tigris, indeed less, if anything, the sites of old cities being generally, from accumulated *débris*, on a higher level than the surrounding country. This aspect of the soil, indeed, is peculiar to the highly cultivated districts, and, in fact, instead of witnessing to their utterly desolate state, tends to overthrow the conclusions of this observant traveller, and to show that too great a zeal, although in an excellent cause, may not always carry conviction of the truth, while, at the same time, the spirit of the prophecies may have been sufficiently well carried out, before our day, to prevent scepticism, or indeed may, for what we know, yet require to be fulfilled. There are, in sooth, many popular errors abroad relative to the present *status loci* of fallen Babylon in connection with some of the solemn denunciations recorded against it in the pages of Isaiah (chap. xiii. 20, 21), and Mr. Rich, in relating the tale of the Chokadar (page 30), probably in accordance with the taste of the times, has thrown a degree of credit upon the existence of satyrs, dragons, and other doleful creatures on the spot, which, with a little inquiry, he would have found, when divested of oriental exaggeration, applied to the common hyæna of these

lage only in few and concise terms.* It probably derived its water from the Dijeil canal, and so long as this great conduit remained capable of fulfilling the design for which we may suppose it was excavated, that of supplying the towns recently bereaved of the element by the great change of the course of the river, we may presume that Akbara continued to be inhabited. It is idle, however, to speculate further on its history, though it doubtless existed *in situ* prior to the Mahomedan conquest, perhaps under a different name. We have a notice of the place also in the geographical work entitled M'arífet al Buldan of Ibn Hokal, who wrote in the first third of the tenth century of Christ, and who merely mentions it by name with several others, concluding the meagre list with the brief information, "these towns are nearly equal in

parts and to no other beast. The right half of the carcase of this animal, longitudinally divided, is eaten by the Sunnis, the other portion being considered as unclean in accordance with the law of the Koran, as interpreted by the Sunni sect of Mahomedans; the Shiahs, however, refrain from its flesh, deeming it entirely prohibited. There are some tribes of Arabs, who, finding that opinions clash upon the subject, wisely enough, when hungry, devour the whole; the Jebour indeed seem to have a relish for the flesh of the noxious animal. The peculiar formation of the hind legs of the hyæna, coupled with the fact of its being a semi-edible brute, and an inordinate desire for the marvellous in all orientals, have induced the worthy Chokadar to exercise his powers of invention, probably after inquiry had been made on the subject by Mr. Rich or some of his party; for these people will readily affirm to anything, however surprising, if a leading question, apparently of interest to the querist, is put to them to solve, and, indeed, will not fail to embellish it with some crude and preposterous remarks of their own, that, in most instances, secure for the rest of the tale the discredit it is generally entitled to. As a myth, however, the satyr is not unknown in this country, and has held its place doubtless from the most ancient times, for we find it represented on the cylinders and gems peculiar to ancient Babylonia, and, in the imagination of the inspired writers, was, perhaps, invested with the same powers as the Jins and Deevs (geniis and evil spirits) are supposed to possess among the more enlightened Mahomedans of the present day. Formerly, from a want of a thorough knowledge of the Hebrew term Tzabwa, צבוע the hyæna was supposed to be unknown in Asia, and as Pliny (vol. i. book 8, chap. 30) described it only as a native of Africa, its presence in the east in remote ages was once doubted by a naturalist of distinction (Colonel Hamilton Smith). Though little known, perhaps, from its nocturnal habits, it was doubtless much dreaded, and may have supplied a type for the term "satyr," as rendered in our version of the Scriptures, in which the hyæna is named but once (in the Greek text of the Apocrypha) by the name of Ὑαινα (Ecclesiasticus xiii. 18). At the present day the animal, amongst the orientals, has ascribed to him the same salacious powers as the Σατυρος of Greek fable was supposed to enjoy, and in this respect, among the ancients doubtless, it held the same place, from the peculiar perineal glands with which it is furnished by nature. Its habits in other respects, associated with imagination, lent an ideal picture sufficiently corrupt and alarming to create either terror or disgust in the minds of all men. There are some Arabs even at the present time who suppose it to be so far a distinct species from other beasts as to be able to change its sex at will. The Arabic name D'thaba, ضبع meaning alike "hyæna" or "lust," shows at once its close affinity to the Hebrew.

* In the Taquim al Buldan, where Akbara is described as ten Farsakhs from Baghdad. This gives a value of 5,062 yards to the Farsakh, or two English statute miles and 1,542 yards, equivalent to two and a half geographical miles exactly. Abulfeda's information on this head is derived, too, from the Libab, or "choice" pieces of a work called Kanun.

greatness and in *littleness*."* It is named too in a manuscript work entitled the Kitab-al-Akalim, by an anonymous writer, who is supposed to have compiled his description of the Euphrates and Tigris about five centuries back.† Beyond the name Akbara, amid a catalogue of other towns, standing on the banks of the Tigris, we have, however, nothing recorded; and Masudi, though he notices Tekrit, Samara, and Baghdad, on this portion of the Tigris, in the only book of his that I have access to,‡ is provokingly silent with regard to other places, which, from their size, must have been almost equally distinguished. From this I conclude they had dwindled into mere villages in his day (A. H. 332), not worthy of even a passing glance.

The neighbourhoods of Akbara and Waneh are much visited by parties of the Bedouin Arabs, who remain concealed among the ruins in hopes of meeting with caravans of pilgrims that sometimes venture to use this road on a devotional tour to Samara. The tomb of Kef Ali affords a hiding-place, and a well, excavated in the old bed of the stream as a pious work for the use of these religious wayfarers, renders it a fit "hotellerie" for the nomade robber: some fifteen years ago Ali, then Pacha of Baghdad, placed a garrison at Waneh,§ in hopes that its presence would deter these banditti from infesting the Dijeil districts, the garrison being supplied with water by a cut from that canal, re-excavated at the expense of the Government. The precariousness of the supply,

* See translations of Ibn Hokal by Sir W. Ouseley. D'Herbelot, in a notice of this geographer, styles him "*fort prolixe.*" His descriptions of the towns on the Tigris are certainly otherwise.

† We have enumerated in succession in this work, below Samara, the towns of Qadesiyeh,* Al Ajmeti, Al Alth,* Al Khatireti, Al Suwam'a, Akbara,* Awaneh,* Busrey,* Yezughi, Berdan, Mezrakah, Katerbal, Shemasiyeh, then Baghdad, which is named the "city of peace, divided by the Tigris." Of this extensive list I have found five only, those marked with the asterisk, retaining their ancient names in the country independent of Baghdad, but hope to assign a locality to the rest before long. These doubtless were in ruins long before the Kitab al Akalim was compiled, or, perhaps, were then merely eking out a bare existence (many of them under another name), after the excavation of the Dijeil canal had in some measure restored the supply of water so much needed subsequent to the irruption the Tigris made to the eastward. The author, doubtless, collected his names from existing works, when describing (in general terms only) the rivers Euphrates and Tigris. I am, indeed, led to think that their more prosperous days had passed prior to the Islam period, from the words of Masudi, in chap. ix. p. 254, of Sprenger's translation, which I shall subsequently refer to at large, when considering the site of Opis, and the great damage the country sustained by the destruction of the Katul al Kesrawi canal.

‡ Maruj al D'hahab wa m'aa den al johir. This, however, is a general history, and but casually treats of geographical subjects. I have tried in vain to procure the Akhbar ez Zaman, a pure geographical work by the same author in detail, where doubtless he is more explicit. I believe it does not exist at present in Baghdad.

§ Waneh, or Awaneh, as it is written in the books, is an old city about a mile to the south-east of the Akbara ruins, on the old course of the Tigris. I have not yet visited the spot, but shall take an early opportunity of fixing its position.

cut off as it was, sometimes by obstructions, at others by a scarcity in the canal itself, soon made the modern fort, built on the site of the ancient town, an untenable position, and it was therefore abandoned almost as soon as occupied. Many believe, however, that the threats of the Arabs had more to do with the evacuation of the place than the necessity mentioned, and the whole job appears to have been one of those wisely-conceived designs the Turks are so fond of practising without considering their feasibility or disadvantages beforehand. Had the fortress, indeed, been built around the well above mentioned, the Arabs would have been deprived of the article so much needed in their predatory excursions, and this alone would have effectually deterred them from making any stay on the spot. A casual visit even to their hiding-place, the tomb of Kef Ali,* would have been attended by risk to themselves, for the well is within point blank range of the building, and a shell or round shot, expertly thrown, would have carried moral weight with it for a long time in advance. Turk-like, however, remedies for existing evils are seldom thought of, and, when undertaken, are executed by that happy mode denominated by sailors "the rule of thumb,"—a rule which, however ingenious, is about as efficacious as the tall Irishman's plan of unwillingly curtailing his blanket at one end to lengthen it at the other, so as to keep the cold from his feet, which had become half frozen from a too contracted covering. The result of these feeble conceptions and half executed measures is to embolden the Desert tribes, whose annual encroachments are made with increased daring, even in peaceable times, within a few miles of the seat of Government, while, when rebellious, their forays extend to the gates of the capital. As an instance of this, the direct road to the Dijeil, which we are now following, has been closed to caravans from the danger apprehended, and the produce of the district protected by the canal has generally to cross the Tigris to follow the eastern road to the city. Even among the smaller tribes of the Khasrej and Makadmeh located on the line of route, an almost constant fear is entertained for the safety of their flocks, which are swept off from time to time by detached parties of these plundering hordes. We

* The cupola of this tomb has at one time been surmounted with a neatly carved block of white marble, highly polished and of the finest grain; it now lies within the tomb, having by its weight fallen through the crumbling roof. The name Kef Ali, كف علي applied to many places in the country, would seem to signify that some one of the soldiers or companions of the famous Ali, the son-in-law of the prophet Mahomed, was interred here. The present ignorant people, however, imagine that the building was erected to commemorate a miracle, worked on the spot by the first proselyte to the doctrines of Islam, whose hand, كف Kef, is the member from whence its appellation is derived. Ali was, I believe, never so far north as this place, but his virtues in all likelihood have been venerated here in the person of some other chief, indeed, on the one perhaps in whose favour the reported miracle was performed. I procured a set of good bearings from the top of the tottering building; these will be found in Appendix, under head K.

hear that a band of ten horsemen was seen last night concealed in the neighbourhood of Nathriyat, but, from circumstances mentioned by the narrator, we believe our party to be the innocent cause of the existing alarm. An old Syed, who acted as spokesman on this occasion, showered on the heads of the villains, who showed themselves on the horizon of his vision the previous evening, a string of abuse in the choicest phrases the Arabic affords, calling Allah to witness that, if they came again to disturb the peace of his camp, he would personally cut the throats of the whole band. This seemed to give him infinite relief, and though by no means courteous to ourselves, as we were the culprits, it was smilingly listened to, especially as we had witnessed the vaunting old fellow's prudence in keeping aloof the night before, when but the show of attack would have scattered any number so small as our own to seek safety at the expense of horseflesh. I must say, however, that this caution in them is not the effect of cowardice, but is caused by the dread of subsequent retaliation. A visit from the powerful tribes to whom these parties are allied would occasion a blood feud, in all cases attended with the greatest evils to the weaker party.

From Akbara to Sumeycheh it occupied us an hour and forty minutes. The whole distance was traversed by the lines of deep and extensive canals, and the appearances of wasted fields on either side as far as we could see. These canals all led from the Dijeil in the flourishing period of that conduit, but the decreasing supply in the trunk stream, neglected as it at present is, has caused these fine irrigants to be closed for a long time past. They bear evidence, however, to the former fruitfulness of the Dijeil districts, whose attenuated stream now but barely reaches to Sumeycheh, and that for a few hours only in each day, according to the height of the Tigris from whence it is led, for the villages in its course to the south have their regulated hours also for the enjoyment of the element, which is very sparingly distributed. In the more prosperous days of the Khalifs, when the broad channel of the Dijeil was nearly connected with the waters of the Tigris through its south-eastern irrigants, its waters not only supplied the towns that had been isolated by the great change the Tigris made to the eastward, but acted also as a defensive barrier to the suddenly bereaved cities and the immense tract of land which, by the irruption, had become the property of the district. Protected by this stream to the west and by the new course of the Tigris to the east, the included space doubtless became the resort of the peaceable land-holder and cultivator, for the security it afforded. A glance at the map will show the value of this isolated portion, yet, strange to say, the present Government pays but a slight regard to its naturally secure position, where a judicious expenditure, coupled with an earnest attention to the improvement of one spot, would at once show

how the resources of the country could be again adapted for the obtainment of vast revenues such as it formerly enjoyed, instead of the exchequer being kept at its miserably low state from year to year, by hard-wrung and difficultly collected drainings in the shape of taxes and tribute, from places separated by tracts of desert from each other, and from people who, confiding in their distance from the seat of Government, and the weakness of the authorities, contribute no more to the State treasury than suits their taste for idleness and exemption from the visits of the soldiery. In Turkey, more than in any other country, these visits are as dilatory as ineffectual, though for the time they occasion inconvenience to the Arab, inasmuch as the tribe has to quit its territory, which alone embarrasses a community, for, in addition to the domestic disturbances occasioned by the movement of flocks and herds into less favourable pastures, it frequently embroils the tribe with neighbouring families, at a time when harmony should prevail. Thus idleness and a partiality for the domestic soil on the one hand, combined with the absence of *morale* in the constitution of the Turk, and a want of ethical knowledge in the government of States on the other, forges a political link of union which, however corrupt, maintains the chain unbroken though most galling, from the necessity which gives rise to the mutual dependence. Were the present Pacha but disposed, the Dijeil could be easily opened to its former extent, and the small tribes, now annually in a state of starvation around Baghdad, would gladly avail themselves of its protection to people the spot; nor, for this reason, would the locality be unregarded by the capitalists of the place, and in a short time we might hope to see its deserted towns restored, and its minor irrigants re-opened for the encouragement of the few industrious agricultural families that are met with. Example would then work its effects, population would increase, and a moderate taxation, exacted with strictness and impartiality, would soon swell the exhausted revenues. Security of property must, however, be first guaranteed by the strong arm of the law, and the existing corruption in all classes, and in all offices, must be gradually eradicated. A small place like this, amply surrounded by water, is a fit spot for the introduction of improvement, and I feel confident of its progressive character if some enlightened Pacha would devote his energies to the task. He must, however, combine *in se* both statesman and soldier, freeing himself in the first instance from avarice and pride, those great vices of Turkish national character, and, like Peter the Great, must devote himself entirely to the task of regeneration. A lamentable want of energy in the present ruler precludes a hope of this for the time, but while recording this failing it is but fair to state that the vicious stumbling-blocks to amelioration and improvement are alike absent in his character, which, while noted for

good nature, is remarkable for taciturnity and a child-like simplicity o manner.

The capital of the Dijeil district is now represented by the miserable village of Sumeycheh,* enveloped in a date-grove, the first on the west side of the Tigris above Kathemein. It numbers at the present time about 200 mud tenements, inhabited by cultivators principally, who are of the Shiah sect of Mahomedans. It boasts of a mosque and Serai,† the minaret of the former being a stunted pillar fast falling to decay; and within a year, in all probability, will be numbered with the things that have been. The date-trees, formerly so thick, are now few and far between, and, year by year, are decreasing from the pervading neglect. Some enclosures surrounding the village, courteously styled "the gardens," boast of a few pomegranate-trees, which are nearly hid from the passenger by the great height of the mud walls that enclose them. These speak of the character of the Sumeycheh people, who are reputed admirable thieves, and covet in no ordinate degree the property of their neighbours. Its population is composed of several tribes; among others, fixed residents from the pastoral and agricultural families of the Khasrej, the Wazun, the Babilin,‡ and the Safiyeh, who here, as schismatics, enjoy unmolested the opinions they have imbibed. Like all other lands in this part of Turkey, the district is annually farmed to the highest bidder, who, without reference to his abilities and character, becomes at once in his own person proprietor and farmer, tax-gatherer and assessor, as well as magistrate, jury, and sometimes executioner,—in all cases but those of life and death. The present functionary, or Zabit,§ as he is termed, is Tahir Agha, a descendant of one of the old Baghdad families, and has held the district for two successive years, contracting to pay to the State in this period the amount of forty lakhs of Riege Piastres, a nominal coin, equivalent to a sum of £877 sterling. Here then is a district that encloses perhaps an area of 200 square miles of the finest alluvial land, than which I believe

* Sumeycheh, I am inclined to think, stands upon the site of Suwama of note †, p. 238.

† Serai, سراى "palace," a Persian word in common use both by Arabs and Turks. It is applied also to any mansion, however small, in which the chief of a town or district resides. The place in question differs only in its construction from the rude dwellings around in having the doorway and one room only, built of burned bricks.

‡ The late Dr. Ross mentions these people on his journey to Al Hadhr, noticed in the Journal Royal Geographical Society as the descendants probably of the original Babylonians. The only information I could obtain regarding them was their having originally come from the neighbourhood of Kerkuk. The name is recognised by the Arabs as an ancient one, and its possessors are no doubt in some way connected with the original stock that peopled the fourth climate, as the ancient Persian geographers denominated the land of Babel.

§ Zabit ضابط signifies a "master," or superior, and is used in Turkish Arabia to denote the "chief" of the district; he is generally also the proprietor or farmer of the soil.

there is none more productive, and surrounded on all sides by water, paying about £4 10s. per square mile, which, instead of an iron plough, so soft is the soil, requires only a pointed piece of wood to turn up its surface for the purposes of the cultivator. The water, too, flowing from a higher level, needs only an excavated path to traverse it in its whole extent, with no other trouble than that of keeping the aqueducts clear to render the irrigation complete at all times; and yet no heed is taken to the re-opening of the Dijeil canal, whose wire-drawn streams can now be stepped across by a boy at Sumeycheh, while in by-gone times they swept onwards through the lateral ducts, even in brooks some yards in extent.

On leaving Baghdad the Pacha had kindly furnished a letter to the Zabit of the district, who now invited us to take up our abode in the Serai, the best accommodation the miserable village afforded. Declining the intended courtesy, however, we selected a flat sward on the skirts of the village, where we at least could inhale the pure air of the Desert instead of the accumulated odours of the cow-house and stable, the apartments generally approximate to the Arab village drawing-room, which in itself, if not of impure Augean stamp, is so crowded with living specimens of inferior zoology as to lead to the belief of your having stumbled by accident into an entomological museum, and were doomed to suffer, for the mistake, a personal introduction not to, but of, every little member comprising the community, for you are assailed on all sides at once. I had often thought, indeed, that the Arab generally was the greatest idler in the creation, but more than a casual glance has since convinced me of my error, for these tormentors of his race, which nature has amply provided, afford him a constant occupation. It would be matter for speculation, perhaps, to consider how far this has interfered with the performance of works of more general utility, but as the night is waning, and my companions already buried in the oblivion of sleep, I will let these thoughts take the same course while I stretch myself out in the attempt to follow them, first, however, securing my instruments for to-morrow's journey, for my late reflections are due to the slow passage of Sirius (*a* Canis Majoris) over the meridian of my carpet, spread true east of Sumeycheh minaret, which consequently is in the same latitude.*

The following morning (March 24th), being anxious to obtain a good set of bearings, after sounding the people with respect to the propriety of ascending the minaret for this purpose, I set off for the mosque, and from the broken gallery had a good view of every remarkable object in the vicinity,† not, however, without imminent risk of a broken neck, for a ledge of brick about two feet broad, without protecting sides, alone

* See Appendix L. † See Appendix M.

conducted round the summit of the minaret, and thus compelled me to proceed, as bearing after bearing was taken, with my back against the upright shaft and a clear drop of 60 feet into the court-yard of the building below me. It was a ticklish task, and I was not sorry when it was completed, and merely mention the circumstance from the sensations I felt according with what I had before heard but could never comprehend. On this occasion an almost irresistible desire seized me, not to precipitate myself headlong down, but something I cannot describe that was almost akin to it. It may have been partial giddiness, but I was aware it required all my presence of mind to keep the horror of the fall, the restraining thought, foremost in my memory. I verily believe that, had I allowed the sense of impending destruction to escape, the former impulse would have precipitated me into space the next instant, to fall a corpse on the flags below. Perhaps the circumstances of knowing there was but one door, and that I had already proceeded half the circuit of the pile from it and out of sight of my companions, tended to alarm me at the height I was; I even dreaded to lean too hard against the shaft for fear of recoiling forwards, and went along sideways in this embarrassing position, until I made the circuit of the building and caught behind me the lintel of the lower doorway. Certain of being safe, these almost overpowering thoughts at once left me, but I never reflect on the awkward position I was then in but the same thoughts, in a less degree, will intrude upon me, though I never experienced the like sensations before, in many similar positions, and may never do so again. I leave it to others to account for the singular feeling, for I am unable, though inclined to attribute it to some unknown but morbid state of the stomach at the time. My impression, however, is that many reputed suicides have resulted from similar affections on the brain of individuals, who perhaps, of all others, may have been most unlikely to commit self-destruction; nevertheless, the press in many cases would teem on the following day with previous facts corroborative of the hallucination that led to the attempt, while, in reality, the intellect of the suicide may have been perfectly sound to within a few moments of the catastrophe.

Soon after our return from the spot which led to the digression, the Zabit of the district favoured us with a visit, and at the same time provided a sheep, firewood, and other necessaries for our entertainment, free of expense, in accordance with the established laws of hospitality. These we were not strictly entitled to, for we had declined his proffered civilities on the previous evening, principally from a distaste of the custom which, *among Turks*, is generally made at the entire expense of the poor, or at much less a cost than the value the articles are priced at. We found our visitor agree-

able enough, though at first he wished to convey an idea of his importance by a taciturn gravity that sat but ill upon him. Soon aware, however, from the style of his reception, that his inflated manner was unappreciated, he became affable and conversant. He informs us that the clearing the canals cost him a sum equal to £500 before he commenced farming the land to the tenants, and the Tigris has not yet risen as usual, to render them effective. The sum looks small, but when the size of these petty irrigants, cut through a soft alluvium as they at present are, is considered with reference to the amount of profit after paying the purchase-money, it is reckoned a great outlay and a dead loss to the proprietor, who this year is otherwise unfortunate, there having been a dearth of rain throughout the season. Furnishing us with a guide, and letters to the chiefs in the north of the district for our reception in their various localities, he took his leave, and immediately afterwards we were called upon to give the customary donation to the bearer of the edibles sent for our consumption by the chief. This donation is generally made with reference to the value of the *presents* received, which in liberal Turkish houses is *bonâ fide* the perquisite of the servant bringing them; among public functionaries, however, of this class, the owner, as in this case, considers himself fortunate if he is selected as the bearer, for he meets with a return for the forced hospitality of his master, who, doubtless, is equally pleased at the *finesse* he has displayed in obtaining a character for generosity without detriment to his own pocket. With Arab tribes of any pretensions to caste, the act of feeing the dependants is considered as an insult; indeed, among the Bedouins, the lowest followers, having the character of the tribe for hospitality at heart, will not accept it, for, thieves as they are by profession, the money thus earned would be deemed a pollution. With the Turk, however, it is far different; men of the highest class even not unfrequently resort to this plan for paying a numerous class of retainers, whose sole gains are the received fees of guests, fed in their master's house upon forced meats, often enough levied at the command of the seemingly generous entertainer.

Shortly after the noon observations for latitude had been obtained, we left Sumeycheh under the conduct of Husseyn, a new guide, and, keeping a course of north and by east generally, passed over deserted beds of cultivation and ruined walls, that proclaim the abode at one time of an extensive community. The ground, however, was arid and parched, though traversed with minor branches of the Dijeil, which not many years previously had been open, but were now closed. In an hour and ten minutes we came to the deserted villages called Wazun and Safiyeh, from agricultural families of these tribes formerly inhabiting them.

These stand upon the site of an ancient town* which encompassed a quadrangular fortress of great apparent antiquity, whose remains, worn down to a high tumulus similar to the strongholds seen in the plains of Shahri-Zur,† are quite distinct, having a deep hollow in the centre, that evidently marks the site of the well from whence its garrison derived the supply of water in times of strife and confusion. It is now called Al Hyr,‡ and nothing is known of its history at present either directly or by tradition. North-north-west of this position, a mile and a half distant, we came upon the well-known line of an ancient canal of considerable size stretching from the east-north-east. It can be traced in a direction of 240° to the old bed of the Tigris. It was recognized instantly as a branch originally emanating from the Katul al Kesrawi, the large conduit now on the other side of the great river. The Tigris, indeed, by its irruption to the east, separated this and many other similar branches from the trunk stream, causing universal destruction at the period. The guide erroneously styles it the Nahrwan, though the name is conclusive of its origin. Its singular position, lopped off as it is from the great artery, and standing immediately to the west of the small dry bed called Shatayt, shows that the latter watercourse is of comparatively recent date. We can see its windings about a mile north of our present position, and about the same distance to the east, where it severs the canal. Proceeding onwards in a line of north as near as possible, in ten minutes we crossed the dry bed of the Shatayt, and in an hour and five minutes beyond the broad stream of the Tigris was gained, immediately to the west of the openings, or depressions rather,§ from whence the Shatayt bed, on the formation of the new course of the Tigris, in all probability derived its origin as a stream; only to be closed again when the larger body of water in the Tigris had worked a depth of bed sufficient to contain it. At times even now, during high rises, the Tigris finds its way into this channel, and in such cases commits great havoc in the vicinity of the Dijeil, for many broad watercourses in the neighbourhood bespeak the nature of the ravages, and the people also confirm it.

* See Appendix N.

† I have described some of these at length in a Narrative of a Journey through Parts of Persia and Kurdistan. See Transactions Bombay Geographical Society for 1848.

‡ This name, I believe, is sometimes applied to the old Persian fire-temples. There may have been one on this site in the Sassanian period. See also Appendix N.

§ This opening of the Shatayt will be found noticed by me on a Steam Tour on the Upper Tigris (Bengal Asiatic Journal, April 1847, p. 305). The stream at times carries away whole fields of cultivation and joins itself with the waters in the Tarmiyeh lake. I should have mentioned, when speaking of Akbara, that the Shatayt had been spanned by a bridge, for the remains of a solid structure are just discernible in its bed, that formerly connected the towns on either bank.

We had been guided to our present position by the flags of the Nitocris, which were distinctly seen from near Sumeycheh, but were again lost sight of a little to the north of Al Hyr from the depression in the country, which, I now think, corresponds with the ancient *débouchure* of the Atheim river with the old bed of the Tigris. We were sunk in this depression when we came suddenly upon a caravan of pilgrims that had, an hour or two before, crossed the Tigris on their way from Samara to Baghdad. To pursue this route at all, they had to be well armed. Even as it was, it was evident they marched in continual fear, from the alarm evinced at the rencontre; and our Arabs, seeing a party of Persians, were proposing a sham attack to enjoy the flight which they felt assured would ensue on the charge being made. I would not, however, permit it, for the foremost of these wayfarers were women and children, slung on either side of their mules, in the peculiar cradle-like boxes called Kajavehs in the country, the men bringing up the rear. When we approached, however, they rode to the front and gallantly formed line on the flank nearest our party, each man seated on his beast bringing his weapon to the charge ready to "present" in the event of hostile menaces on our part, and it was as well, therefore, that our advance was made in a peaceful attitude. It was apparent at once that these Persians were trained men, for, finding a European at the head of the suspicious strangers, their confidence was restored, and, lowering their pieces, we passed under a salute given in military style with the hand. A few minutes afterwards we exchanged similar salutations with a body of Persian gentlemen, the chief of whom was, I heard, a military Shahzadeh, or prince of the blood royal of Persia, who, with his relations and family, were proceeding on a devotional tour to the various shrines of the martyred Imams of his faith in the country. It is strong parties such as this only that can take advantage of this short route between Baghdad and Samara. In the deep bight of the Tigris, south of Khan Dholöiyeh, a ferry is established for crossing the river, and the road distance thus occupies twenty-three hours, whereas by the eastern route through the Khalis district it is generally a day longer. The position of this ferry is a well-defined geological limit, for here we have the last shingle islands in the bed of the Tigris as it proceeds eastwards, and the bottom changes from the hard superimposed strata of the tertiary tracts to the muddy alluvium of the plains.

March 25th.—Leaving the party encamped alongside the steamer I set off this morning, with a few people only, to examine the locality; first proceeding at a smart canter to a conspicuous tomb, known as Syed Mahomed,* standing on the plain between the old and new courses

* It marks the last resting-place of another member of the unfortunate race of Ali. Syed (lord) Mahomed was the third son of Ali bin Mahomed al Juwad al Askeri the tenth-Imam,

of the river. Near it is a deserted Khan, or Caravanserai, built for accommodation of pilgrims, but, like most works of the kind, has been abandoned since the route has become dangerous. The tomb itself is a plain domed building, somewhat lofty, and has attached to it a place of prayer. The façade stands out from the building itself, and is not an inelegant piece of architecture, being three vaulted sections standing on a brick platform. The centre one supporting the dome is the highest, and a doorway opening at its back leads to the cemetery within. The face of the building is purely Saracenic, executed in a very neat style of brickwork, and on the entablature surmounting the centre arch the words, Ya! Allah! "O God!" Ya! Mahomed! "O Mahomed!" and Ya! Ali! "O! Ali!" are neatly inscribed by blue enamelled tiles that have been inlaid in the structure, the first pious ejaculation being placed over the apex of the arch supported by the others on either side. The building is enclosed within a square outer court, having cells in its walls for accommodation of the visitors.

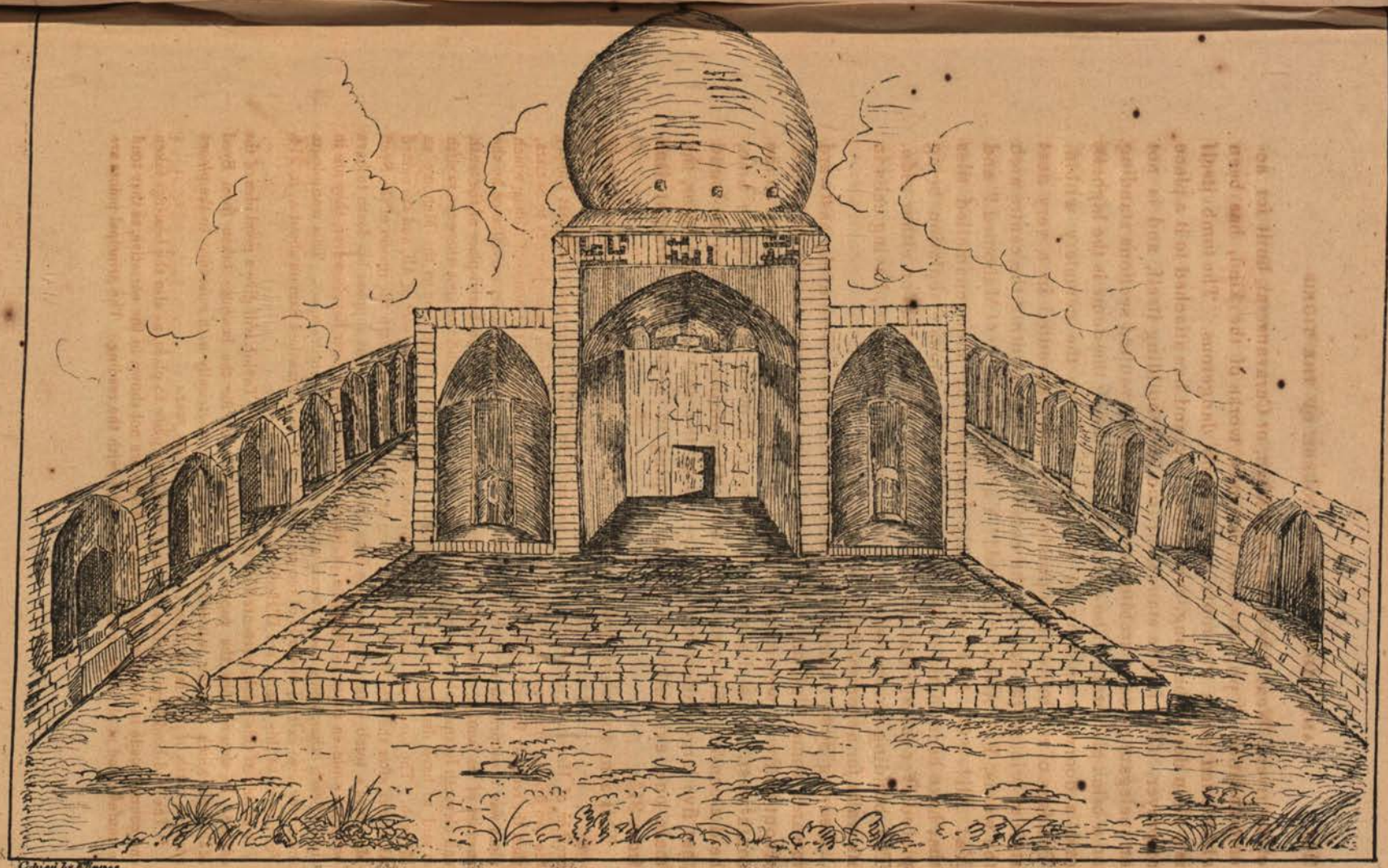
Leaving Syed Mahomed we next directed our course to the eastward towards some high mounds situated near the bight spoken of before. About half way we crossed the bed of the Shatayt which extends to the south-west. It is distinctly traceable, and must have, for some time, held a considerable running stream. On gaining the mounds we found that five large canals had diverged from the spot in ancient times, the main one, evidently the feeder, coming in a perfectly straight line from 31°.

This arm was subsequently followed* to where the great irruption of

brother of Hassan al Askeri the eleventh, and uncle to Al Mehdi the twelfth and last Imam; the two first accompanied their father the tenth Imam from Medineh on his journey to Samara, then the recently formed capital of Mostassem, the eighth Khalif of the house of Abbas, which place was appropriated as the residence of the Imam while under a strict surveillance by the enemies of his family. Samara was destined afterwards to become the burial-place of the tenth and eleventh Imams, who were supposed to have been poisoned, and the spot where the twelfth is said to have disappeared from the earth to re-appear at a future time as the Mahomedan Messiah. The tombs are annually visited by hosts of devotees of the sect of Ali, and are named Al Askeri, after the title of the family; I am at present unable to learn the reason of the Syed Mahomed's tomb being at a distance from the rest of his race, but suppose his death to have occurred while *en route* to the place of imprisonment. On a clear day, however, they are in sight of each other, being about twenty and a half geographical miles apart. This mausoleum must now have existed upwards of ten centuries, as the family reached Samara about A. H. 214. For notices of this family, see D'Herbelot, Biblioth. Orient.

A sketch of this tomb, presented by my friend Mr. John Taylor, will give a good idea of the edifice. It accompanies the paper. See Appendix O, for the bearings taken from Syed Mahomed, which position is itself determined trigonometrically with reference to the places situated north of it as far as Dhur, by my survey of last year.

* The road-book kept exhibits the exact times from place to place, as also the bearings taken and courses made in the intervals of times. These are not shown in the narrative, as they tend to confuse, and at all times interfere considerably with the reading. The principal points are



Copied by H. Hamer.

Syud Mahomed

the Tigris severed it in two about a mile and a half from this spot, its continuity being found on the opposite side of the river, directly derived from the Katul al Kesrawi, and is positive evidence that the country now on the west of the Tigris, as far as the modern Dijeil, was cultivated in its fullest extent by means of the royal conduit of the above name, which, indeed, contrary to my former opinion, must have received into its bed the greatest portion of the Tigris itself, otherwise the Katul and Nahrwan combined could never have supplied so many large veins, and, at the same time, have maintained their own character as artificial fluviants, of depth and rapidity, through a country 250 miles in extent. The breadth and extent of these derivatives alone are very surprising, and now impress me with a much greater idea than I formerly had of the magnificent works designed by the earlier monarchs of Persia, so as to reap the fullest benefits from the rich soil of the province.

Being now enabled to determine my positions from time to time, in consequence of having known points in view ascertained trigonometrically in a former year, I was in a measure independent of astronomical observations, and therefore left the chronometer, which I had hitherto carried, on board the vessel. Mounting shortly after noon, we resumed our examinations of the country in a direction of south-west, and in an hour and ten minutes, having kept the windings of the Shatayt bed on our left, we reached a tumulus similar in all respects to Tel Hyr, and, like it, evidently the remains of a fortress that had been surrounded by a town of some extent. The plain in its neighbourhood is strewed with brick and pottery in every direction, and the line of an ancient canal, just visible in the soil, shows that it was supplied with water from a duct of the great Katul, although the large dry bed of the Tigris, as it ran centuries ago, flowed close to its walls, a curve of it indeed winding half round the base of the mound. The ancient bed is here very well developed, being fully as broad as the channel of the present river, its windings exhibiting all the characteristics of a first class fluviant, so that it cannot be mistaken for the course of a minor stream. Tel Aabr, as this ruin is now called, doubtless marks it as the position

noted in the Appendix, with detail of the observations made at them. The filling in, therefore, is only shown on the map to prevent prolixity on a subject which is always more or less tedious; in fact, terseness in the geographical description of a country that has seen so many changes, each partially marked on the map of nature, is almost impossible, especially when such little incident is met with to relieve the monotony of wandering from day to day over a wilderness of ruins, alternately varied only by arid and deserted plains. The amount of desolation, indeed, is the single source of interest, and, to a reflecting mind, is in itself a treasury of history, which, though hard to decipher from the feeble light with which it is surrounded, yet calls for more than a passing remark of its superficial character, which generally offers so much sameness as to weary the mind that attempts the description, in the same way that the eye palls upon the monotony of the view.

See Appendix P for the bearings at these diverging canals.

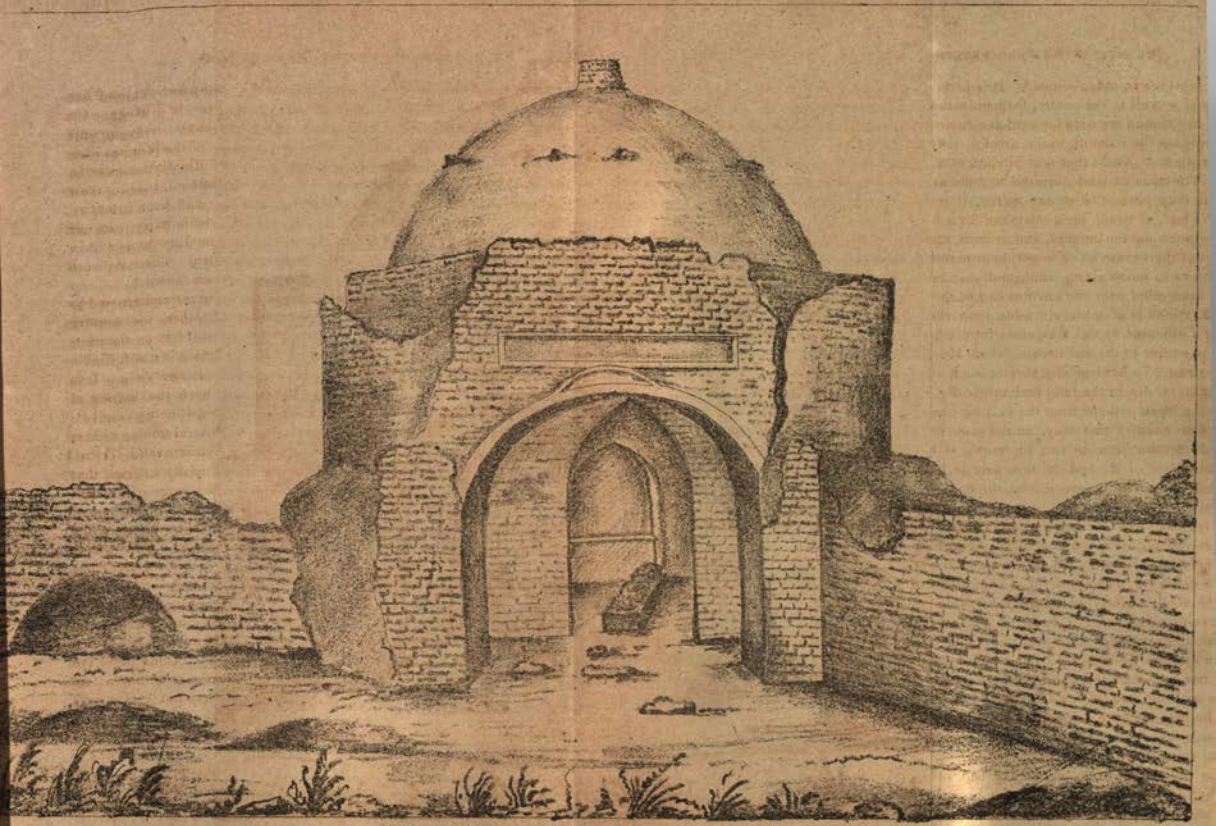
of a ferry or a bridge in olden times.* It is certainly ancient, and has the remains of a well in the centre, for use in the event of siege. On approaching the mound we rode forward at a smart canter, showing ourselves suddenly on the summit, to the great dismay of the inmates of a camp of Majummah Arabs that was pitched at a little distance on the other side. The women and children at once made off, leaving their tents and all they possessed to our mercy, if we had been intent on plunder. We had, as usual, been mistaken for a hostile party from our abrupt appearance on the mound, and it took some time to convince the runaways of their error, so as to get them to return. The men were mostly absent, or so much alarm would not have been shown.†

We now descended into the ancient bed of the river and crossed to its west bank, which is of more elevation than the other, the country here bearing a different aspect altogether from what it has on the eastern side of the course of the old stream, where the plain is a soft friable alluvium, instead of a hard pebbly surface such as is now seen. It is evident this natural dip in the land had originally been the barrier of the Tigris to the west, perhaps from the earliest times, it being conducted into the low country this way, on the same general course as it is observed at the present time to run in, north of Samara and Tekrit. From the windings of its bed in this part it is easily inferred that the stream had in a measure issued from the confined gorge of its own making, that had restrained its impetuosity in the more elevated and rocky regions, and the curves all tending to the east show the line of least resistance to have been in that direction. This weakness in my opinion ultimately led to the great irruption the river has made to the eastward, perhaps from a shoulder of the rocky superstratum in the neighbourhood of Qadesiyeh having suddenly given way under the pressure of so large a body of water constantly impinging upon it, from the firm and more elevated cliffs of a hard sandstone region which opposes itself as a barrier to the west. Along these the Dijeil canal has been excavated, its banks being at times within a few yards of the ancient bed of the Tigris, and at others not half a mile distant; while below, in the neighbourhood of Sumeycheh and Akbara, it would appear that the waters of the canal, having attained the level of the plains, were actually led into its channel.

Continuing along the bank of the old bed of the Tigris, now well marked either by cultivation or by the growth of an indigenous brushwood, we reached the mounds of another fallen city, equally extensive with Akbara, and exhibiting the same masses of prostrated buildings, covered with slag, pottery, corroded coins and scoriæ, as are

* Aabr, عبر "a ford," or "place of crossing."

† The bearings at this spot will be found in Appendix under the latter Q.



SYUD SAADI. A venerable tomb in the ruins of HARBEH.

Lithographed in the Mt Generals Office
Bombay January 1857

observable at that place. It occupies the space contained between the old channel of the Tigris and the modern Dijeil. A few years ago a lofty minaret stood in the deserted city, which is named Harbeh by the modern Arabs; its pedestal is now all that remains to confirm its Mahomedan origin. I am of opinion, however, that the foundations of this town are of greater antiquity than this era, not only from the images of animals formed in terra cotta which are found broken among the mounds, but from the appearance of an extensive platform of antiquated brick, which is seen a few yards to the west of a venerable tomb* known as Syed Saadi, situated on a double mound formed by a quadrangle within a circular ramp, that in itself resembles a ruin of an earlier date. The lines of very old canals too are seen, which passed over the site when they derived their water from the Tigris as it flowed contiguous to the town. During the Khalifate, however, the Dijeil supplied its wants in this respect, and it is not unlikely indeed, as I have said before,† that to this and the other cities bereaved of the river by the great change, the Dijeil owed its existence as a canal. The head of it leaves the Tigris in the neighbourhood of an ancient town called Istablat, or "the stables," named thus, I believe, in modern days from the regularity of its streets, which are disposed as a chessboard, in Arab opinion more resembling the stables in which horses are kept. Here the depth to which it was excavated, seen particularly at the ancient mouth opposite to Qadesiyeh, compared with the low banks not twelve miles lower down at Harbeh, is convincing proof of the great inclination the country takes in its change from the tertiary tracts to alluvium.

I can glean but little of the early history of the Dijeil canal at present. The Arab geographers‡ that I have by me, Abulfeda and Ibu Hokal, just name it; the former, as a canal abounding in towns and villages; the other, among a catalogue of places on the Tigris, without any information beyond the general concise expressions that I have copied in the last line of page 237 and the first line of page 238. Its character, however, as a canal so late as A. H. 629,

* The accompanying sketch of my companion Mr. Taylor represents this building, only different from other minor Mahomedan tombs, in having the grave within diagonal to the square of the walls enclosing it. The sepulchre, as usual, points to the Keblah, in a direction of south-west, while the walls of the tomb run in a line with the cardinal points. My ignorant guide can give me no information as to the history of the occupant, Syed Saadi, nor can I learn the reason for the fantastic position of his resting-place. The bearings here are notified in Appendix under R. The original of the two horned human heads in terra cotta, represented among the devices accompanying the paper, was obtained on this spot.

† See notice of Akbara, pp. 236 and 237.

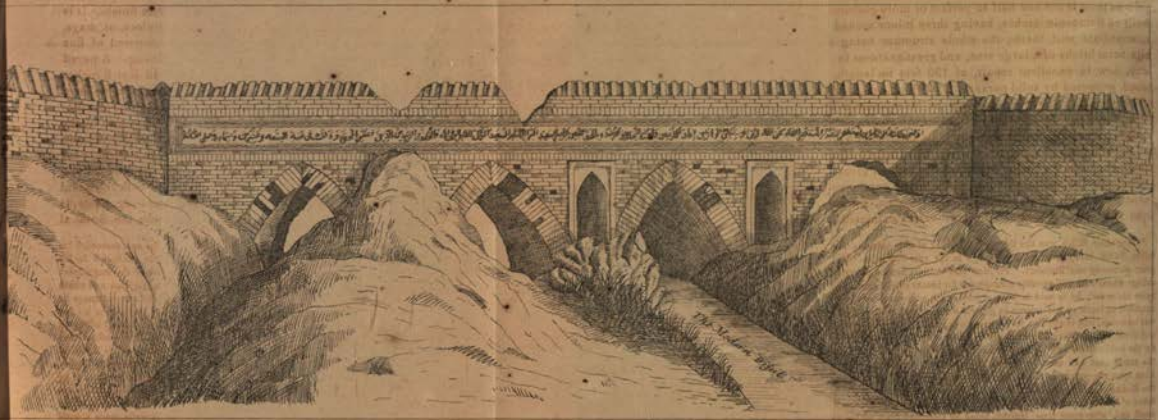
‡ At the present time, so impoverished is Baghdad, in learning and in every other respect, it is impossible to procure information on geographical subjects; nor, indeed, do the old works exist, though it was once the academy of the east.

or in A. D. 1213, can be read at Harbeh in the present day. At that time it rolled onwards in a magnificent stream fifty yards in breadth and of a proportionate depth, but would appear to have been without any permanent bridge until the enlightened Khalif Mastansir Billah* erected the work which the accompanying sketch† represents. As a specimen of the architecture in vogue during the decline of the Khalifate, it is most interesting, for of the few existing vestiges of these powerful princes there is not one half so perfect or more elaborate in finish. It is built on Saracenic arches, having three minor arched sluices, or ways, intermediate with them; the whole structure being composed of fine kiln-burnt bricks of a large size, and great neatness in fitting. A paved way, now in excellent repair, of 190 feet in length, 43 feet 6 inches broad, protected by solid parapets 8 feet high, led directly from the town of Harbeh into the open country of Mesopotamia to the west. Between these parapets and the apices of the arches on either side of the bridge, occupying its whole extent, is an elegant Arabic inscription in relief, composed of separate letters of brick neatly let into a frieze-work tablet, enclosed within an ornamental border of great taste and beauty.

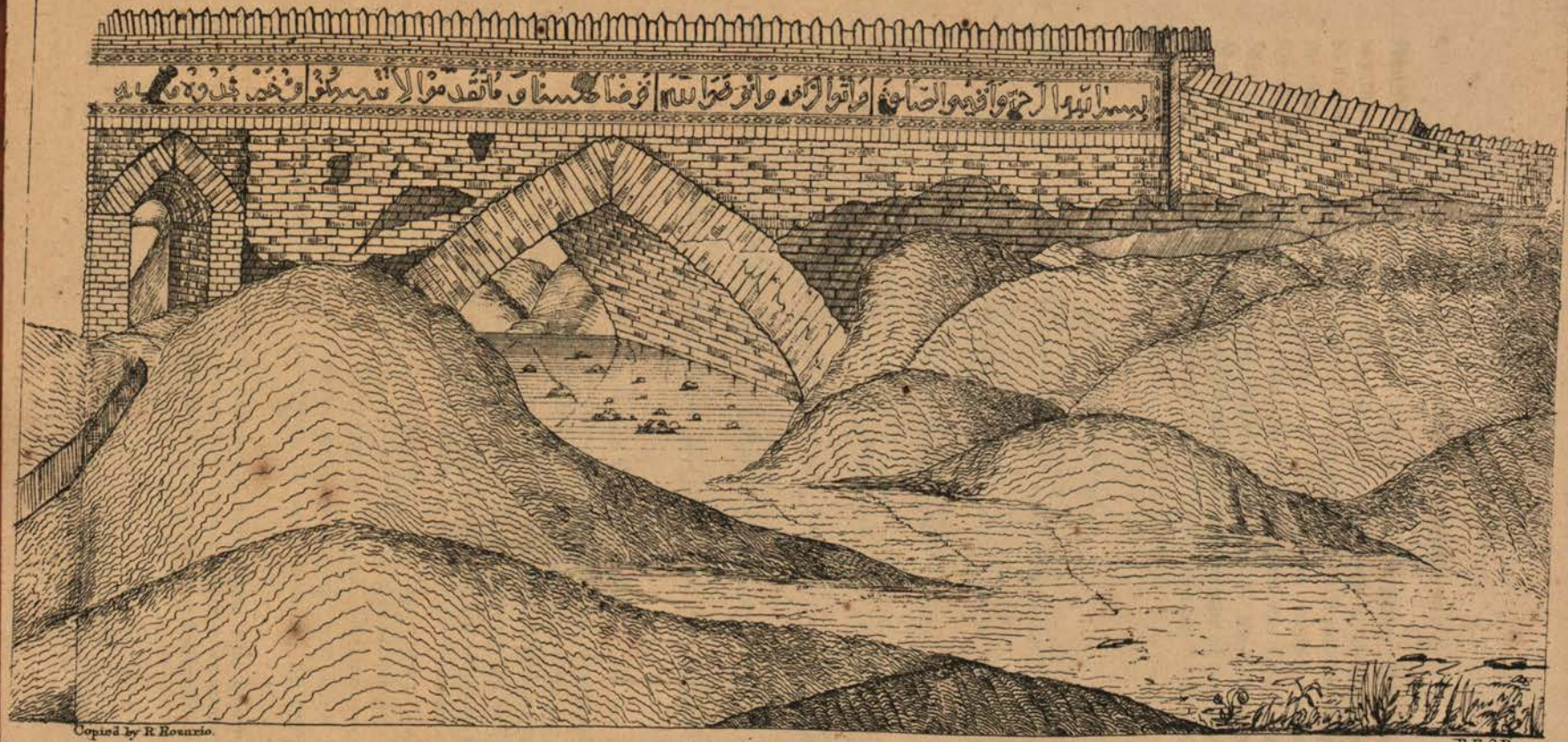
That on the south-east face of the fabric commences with the usual invocation to the Supreme Being, and goes on, after reciting precepts from the Koran contained in four verses extracted from the Surat al

* Mastansir Billah was the thirty-sixth Khalif of the Abbassin family, and succeeded his father Tahir, being proclaimed sovereign in the year 623 A. H. He was celebrated for his great clemency and liberality. To him also authors ascribe the erection of the magnificent college whose ruin still remains (remarkable for beauty of construction) in Baghdad, and which bears his name; he is said to have erected many edifices of this kind, and the patronage he extended to learning and science in general was universal. The wealth of Baghdad in his day was immense, and in addition to the enormous revenues there were treasuries heaped with gold and silver, that had been accumulated by his ancestors. He thought only of expending them for the public benefit in the improvement of the country. In the latter years of his Khalifate the storm that had been brewing to the east and north-east, under the Moguls and Tartars, burst upon the provinces of the Khalif, but his capital was yet too powerful to be attacked by the ill-disciplined hordes of the north. Sixteen years after his death, however, advantage was taken of the supineness and apathy of his son Mostassem Billah, then Khalif, to invest the city itself, and, after some time, Halaku, aided by treachery from within the walls, made himself master of Baghdad and of the person of the unfortunate Khalif; this was in the year 656 A. H. The treatment the sovereign pontiff of the Mussulmen received on his capture may well excite commiseration, though his conduct in some measure deserved it. Halaku caused him, that had seldom been seen by his subjects (so great was his pride that he wore a veil on passing through the streets, to prevent profanation as he deemed it by the gaze of the multitude), to be sewn up in thick felt, to which ropes were attached, for the purpose of dragging the unfortunate monarch through the streets of the city. He thus met a lingering death, and with him ended the Khalifate and the royal dynasty of the Abbassin, which had lasted, without intermission, a period of 524 years, in thirty-seven direct successions. See Biblioth. Orient. of D'Herbelot, under various heads.

† I am indebted to the pen of Mr. Collingwood of the Indian Navy for the accurate drawing of the bridge of Harbeh.



Northern Aspect of the Bridge over the Dijel at Harbeh



Copied by R Rosario.

B.E.S.Press

The Eastern Arch of the Bridge over the Dijeil at Harbeh looking to the North.

Hadith, Surat al Amran, Surat as Subhan, and the Surat al Kehef, to say that "the bridge is consecrated as a pious work to God (agreeably to the sacred words, 'the reward for good works will not be forgotten in those seeking for the paradise of Ferdusi, the prepared residence for righteous believers'), by our lord and master the Imam Amir el Moslemin, commander of the faithful, the heir to the prophets, and Marsilin (apostles), the vicar (on earth) of the Creator of the universe, —the guide to manifest the true path of righteousness." The Arabic original is as under:—

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِيْمِ

وَاَقِيْمُوا الصَّلٰوةَ وَاٰتُوا الزَّكٰوةَ وَاَقْرِضُوا اللّٰهَ قَرْضًا حَسَنًا وَمَا تُقَدِّمُوْا لِاَنْفُسِكُمْ مِنْ خَيْرٍ تَجِدُوْهُ عِنْدَ اللّٰهِ هُوَ خَيْرًا وَاَعْظَمَ اَجْرًا وَاسْتَغْفِرُوا اللّٰهَ اِنَّ اللّٰهَ غَفُوْرٌ رَحِيْمٌ اَلَّذِيْنَ يُنْفِقُوْنَ اَمْوَالَهُمْ بِاللَّيْلِ وَالنَّهَارِ سِرًّا وَعَلَانِيَةً لَهُمْ اَجْرُهُمْ عِنْدَ رَبِّهِمْ وَلَا خَوْفٌ عَلَيْهِمْ وَلَا هُمْ يَحْزَنُوْنَ وَمَنْ اَرَادَ الْاٰخِرَةَ وَسَعٰى لَهَا سَعْيَهَا فَاُولٰٓئِكَ كَانَ سَعْيُهُمْ مَشْكُوْرًا نَشَاءُ هٰذِهِ الْقَنْطَرَةَ الْمُبَارَكَةَ تَقَرُّبًا اِلَى اللّٰهِ تَعَالٰى اَلَّذِيْ لَا يُضِيْعُ اَجْرَ مَنْ اَحْسَنَ عَمَلًا وَطَلَبًا لِلْفَوْزِ بِجَنَّاتِ الْفِرْدَوْسِ اَلَّتِيْ اَعَدَّهَا لِلَّذِيْنَ اٰمَنُوْا وَعَمِلُوا الصّٰلِحٰتِ مَنْزِلًا سَيِّدُنَا وَمَوْلَانَا اَمِيْرُ الْمُسْلِمِيْنَ وَوَارِثُ الْاَنْبِيَاءِ وَالْمُرْسَلِيْنَ خَلِيْفَةُ رَبِّ الْعَالَمِيْنَ وَحُجَّتُهُ لِيُبَلِّغَهُ عَلَى الْخَيْرِ.

The legend on the north-west face is commemorative of the name, titles, and genealogy of the Khalif Mastansir Billah, and, like most royal deeds, savours much of self-adulation and pomp, at a time too when the faded glory of the Khalifate was on the eve of setting for ever. It contrasts strongly with the concise forms in use among the early successors of Mahomed, who used generally the simple but impressive distinction of Khalif only, with the addition, at times, of "Commander of the faithful," as descriptive of their power.* The lapse of six centuries, however, as in other barbarous states, had worked a great change in the primitive habits of the race. Humility and great abstemiousness, the characteristic virtues of the early Arab reformers, had been lost in the pride of conquest and possession, to be succeeded by arrogance,

* The address of the letter sent by the celebrated Harun ar Rashid to the Roman emperor is a specimen of the laconic and contemptuous style of the early Mahomedan sovereigns. It ran thus, "From the Khalif Harun ar Rashid to Nicephorus the Roman dog."—*Gibbon*, vol. vi. chap. 52.

luxury, and a princely display that subsequently led to their overthrow and degradation. The following is the legend on the north-west face of the bridge :—

اَلَّذِي اَيَّدَ اللّٰهُ تَعَالٰى بِعِزَازِ نَصْرِهِ الدِّيْنِ وَاَفْرَضَ طَاعَتَهُ عَلَى الْحَاضِرِيْنَ وَالْبَادِيْنَ
وَاخْتَصَّهُ مِنْ جَلِيْلٍ يُعْجِزُ عَنْهُ حَصْرُ الْعَادِيْنَ اَبُوْ جَعْفَرٍ الْمَنْصُوْرُ الْمُسْتَنْصِرُ بِاللّٰهِ اَمِيْرُ الْمُؤْمِنِيْنَ
مَكَّنَ اللّٰهُ لَهُ فِي اَرْضِهِ تَمْكِيْنَ الْوَارِثِيْنَ وَرَفَعَهُ مُقَدَّمًا اَعْمَالُهُ الصَّالِحَاتُ اِلَى عِلِّيِّيْنَ وَ
نَشَرَ بِهِ اٰلَةَ الزَّاهِرَةَ فِي اٰفَاقِ الْاَرَضِيْنَ وَاَوْضَحَ لِلْخَلَائِقِ الرُّشْدَ وَمَنْهَجَ الْحَقِّ الْمُبِيْنِ
اَلْاَمِيْرُ السَّعِيْدُ الْبَرُّ التَّقِيُّ اَبِي نَصْرٍ مُحَمَّدٌ الطَّاهِرُ بِاَمْرِ اللّٰهِ اِبْنُ الْاِمَامِ السَّعِيْدِ الزَّكِيِّ
الطَّاهِرِ الْوَفِيِّ اَبِي الْعَبَّاسِ النَّاصِرِ لِدِيْنِ اللّٰهِ الْاِمَامِ السَّعِيْدِ الزَّكِيِّ اَبِي الْحَسَنِ الْمُتَّقِي
بِاَمْرِ اللّٰهِ اَمِيْرِ الْمُؤْمِنِيْنَ وَالْخُلَفَاءِ الرَّاشِدِيْنَ الَّذِيْنَ قَضَوْا بِالْحَقِّ بِهِ كَانُوْا يَعْدِلُوْنَ
صَلَوَاتُ اللّٰهِ وَسَلَامُهُ عَلَيْهِمْ اَجْمَعِيْنَ وَذٰلِكَ فِي سَنَةِ التِّسْعَةِ وَعِشْرِيْنَ وَسِتِّمَايَةٍ وَصَلَّى اللّٰهُ
عَلَى سَيِّدِنَا مُحَمَّدٍ النَّبِيِّ وَاٰلِهِ الطَّاهِرِيْنَ

This is a somewhat free translation of the above :—"He whom the Supreme Being has chosen as the powerful protector of the religion, to whom obedience is enjoined both in those present and in those at a distance,* because of his eminent virtues and the restraints he placed upon evil men, Abu Jafr al Mansur al Mastansir Billah, Amir al Mumenin (commander of the faithful), may God establish him in his place, and confirm him in the seat that he has inherited, elevate him through good deeds to the highest sphere, causing, by his enlightened justice, a ray to dawn upon all men, so that through his direction a clear path of truth may be evident to all creation; (son of) the equitable and pure Amir Abi Nasr Mahomed al Tahir, by the direction of God; (son of) the sanctified, pure, pious, and sincere Imam, Abi al Abbas al Nasr-l'din Allah, son of the devout and righteous Imam, Abi al Hassan al Mattaki; by the grace of God, lord of the true believers and the successor of the faithful guides in the path of religion, who acted righteously and with justice. The blessings and the peace of God be upon them. Performed in the year six hundred and twenty-nine. The blessing of God be upon our spiritual prince and prophet, Mahomed, and upon his illustrious descendants."

* By this is meant the dwellers in towns and the tribes of the Desert, who acknowledge the Mahomedan supremacy.

We thus learn that the bridge of Harbeh is now six hundred and thirty-seven years old, notwithstanding the attempts to ruin it by the Arabs, which have failed of accomplishment. A moderate sum would render it again effective, but, unless the canal were re-opened it would be a useless expenditure. As it is, it is the only high road across the Dijeil, and, at the present time, will admit the passage of twelve horsemen abreast, a part of one arch only having been destroyed in attempts to cut off the communication with the Desert portion of Mesopotamia, so as to prevent the Bedouins of the Aniza and Shammar tribes making their forays within the country protected by the stream. These irruptions, however, they now seldom try, unless in very large force, for of late the bridge has proved a treacherous path to them, owing to the tribes within, when the cry is raised of invasion, running to the bridge, so as to cut off the retreat, which can be easily done, armed as they are with fire-arms, and having the dry cuts to entrench themselves in under the arches of the bridge, where the Bedouin horsemen cannot act with sword and lance, the only weapons in general use amongst them. The stream of the Dijeil, at present but three yards broad in its widest part, occupies but a very small portion of one of the arches of the bridge, its channel being cut in the bed of the ancient canal. Its attenuated and wire-drawn appearance, compared with the original conduit, is, in fact, a fitting emblem of the deterioration the fruitful country has undergone; the gradual decay of which is portrayed, step by step, in the dry channels now existing in the original excavation, marking so many periods of its decline from the invasion of Halaku, when the power of the Khalifs was crushed,* to the moment in which we are writing.

* The Dijeil was the scene of conflict between troops of the Khalif and the invading hordes under Halaku, a chosen body of whom was despatched to make a diversion on Baghdad, by the Desert route, through Mesopotamia. They were encountered by a detached force of ten thousand men, whom Mostassem Billah had sent to intercept them under two of his favourite generals, in all likelihood on the Desert side of this bridge of Harbeh, perhaps, as now, the only practicable spot for invading the territory within the canal. A terrible battle ensued, but was attended with no favourable results to either side. In the night, however, the Tartars succeeded in cutting the dikes of a canal and in overwhelming the Khalif's forces in a sea of water. Victory was thus made easy to the Tartars, who now overspread the country on the west side of the Tigris, while Halaku himself, with the main body of the army, appeared before the gates of Baghdad on the eastern side (D'Herbelot's Biblioth. Orient.). The learned author has, however, inadvertently I believe, confounded the Euphrates with the Tigris in his notice of this engagement, for he infers the canal, whose embankments were destroyed, was a cut from the Euphrates. It is manifestly an error, and the canal alluded to, if not the Dijeil itself, I consider to be no other than the great Izhaki conduit, the most northern and western of all the canals that left the right bank of the Tigris, and consequently the first obstacle in the way of an invading army coming along that side of the river from the north. The error is by no means an uncommon one. We find the Euphrates confounded with the Tigris by the ancient geographers, and, indeed, the present occupants of the banks of the stream in this part more frequently term the river Al Frat, or Euphrates, than Al Dijleh, the proper oriental appellation of the

Our bivouac in the bed of the Dijeil at Harbeh was a delightful one, and, as an examination of the bridge would occupy until noon of the next day, we pitched the tent on a grass plat that conveniently offered itself alongside the running water in the canal. After the evening meal had been done justice to, a council was held on the route to be taken to-morrow, whether we should advance at once over the bridge boldly into the Desert in search of the Median Wall, by pursuing a course that should cross its line, if, as represented, it should extend across Mesopotamia to the banks of the Euphrates, or pursue our journey onwards within the canal, in comparative security from the Bedouin tribes, to the camps of the Majummah beyond, and there address a letter to a Dellim chief, who, we knew, was encamped opposite to Samara, requesting an escort from the tribe to conduct us to the Euphrates, as I had determined on tracing the wall to its termination wherever it should be. The difficulty opposed to the latter plan, after leaving the bridge, was crossing the Dijeil itself, which has deep and abrupt banks in the higher country, and quite impassable, unless the Majummah would construct a temporary way across the gorge the stream is confined in. Danger of being met by Arab parties was the objection to the former plan, which, however, had been the mode settled as the one to be adopted some days beforehand, but, as the solitude beyond the bridge now stared us in the face, the spirits of the party sank, and our guides openly expressed their fears of treading on the soil where the enemy of their species, having his "hand against every man," is the only acknowledged inhabitant. Though the skins were filled for the journey, it was idle attempting to overrule their objections, and we accordingly, on the following day (March 26th), pursued the route along the old bed of the Tigris, which is now abounding in cultivation to the north-westward. A mile beyond Harbeh the Nahr Beled, the irrigant leading to the village of the name, leaves the Dijeil, and, crossing the old valley of the Tigris, where it is plentifully distributed, it conducts to the gardens of Beled, where it is finally expended. On the ridge forming the west boundary of the bed of the old Tigris, several ancient canals are seen, which originally derived their waters from the

Tigris. What I conceive to be the origin of this error will be found a few pages further on. دجيل Dijeil, is the Arabic diminutive of Dijleh.

The present name Harbeh may have reference to the conflict, for حرب signifies "battle" in Arabic, and any event of this nature of less import than the change of dynasty which happened in this case, is sufficient cause with the Arabs for the adoption of a new and commemorative nomenclature. The name, as known at present, I have not been able to find in any geographical work, but am inclined to identify the spot as the position of Al Khatireti of the Kitab al Akalim, from its being the site of the largest town between Al Alth and Akbara, whose positions are known and indisputable. See catalogue of towns on the Tigris, extracted from the above work, mentioned in note page 238, and refer to the map for their relative situations; Appendix, under the letter S, shows the bearings observed at Harbeh.

river. Lower down they are cut through by the more recent Dijeil, but their continuities are distinguishable beyond in the open country between it and the line of the ancient Izhaki. Opposite to these canals, on the left bank of the old course of the Tigris, some mounds are seen, probably of great antiquity, surmounted by a ruined town. These are known as Al Alth, another of the positions enumerated in the course of the Tigris in the Kitab al Akalim. I did not visit it, as, from a superfical view, it offers nothing of interest whatever. The same may be said of the mounds of Jibbareh,* the site of other ancient ruins on the same side of the old course of the Tigris as the previously-named town. These we reached in two hours from the bridge at Harbeh, but not without difficulty from the steep banks of the irrigating cuts from the Dijeil, which we were compelled to ford, owing to their having no bridges across them. Our camels, indeed, frequently fell in their attempts to climb them, and, without being held up by the men, would never have kept their footing. Half way between the ruins of Al Alth and the mounds of Jibbareh, a considerable canal leaves the Dijeil. It bears the name of Mastansir, and is said to be the work of the same Khalif that erected the bridge at Harbeh. A little to the north-west of it, the Al Alth, another branch of the Dijeil, that formerly led to the mounds of the name, is passed, but since the desertion of the place the duct has ceased to be in operation. The courses of the Mastansir and Alth canals are convincing proof of the old channel of the Tigris having been dry when they were excavated, for they lead directly across it.

On approaching Jibbareh, the sons of the Majummah Sheikh came out on horseback to welcome us to the camp pitched in the bed of the Tigris; and, to our surprise, we find their father, the individual to whom the Zabit of Sumeycheh addressed the letter we have, is in prison in the village of Beled for a debt incurred by his having stood security for a family that subsequently fled. Luckily, however, as Englishmen, we are not unknown to the tribe, and keeping the Zabit's letter, which in the present state of affairs might have rendered them less civil, concealed, we encamp in their immediate vicinity, and are soon involved in considering complaints of oppression which are put to us to solve, and with which we have as much concern as that unknown but neutral functionary familiarly denominated "the man in the moon." Not to listen, however, to our hosts, as in more polite circles where the infliction is equally bad, would be rude and discourteous, and we therefore glean

* At this place, Jibbareh, the ancient bed of the Tigris, and the margin of the present course of the stream, in high seasons, are blended in one great flat with ridges of shingle traversing it in many parts. The stream now occupies the east portion of this, having in its progress severed an arm (south of the Al Kaim branch) of the great Katul canal, which again is seen entire a little to the east of modern Khan Mizrakji. The bearings here are in the Appendix under T.

from the sons that the father is the same Ahmed-ath-Thahir, who was so cruelly shot and deprived of both his eyes by some irregular troops of Ali Pacha, twenty years since; in fact, the same person so feelingly mentioned by the late Dr. Ross (Journal Geographical Society) in his journey to Al Hadhr. Like ourselves, these worthies had sought the hospitality of the tribe for the night, but, after being entertained, had treated the women of the family with indignity, which was naturally enough resented by the chief. This interference so incensed a brutal soldier, that he fired his gun into the temple of Ahmed-ath-Thahir, and from that day the venerable old Sheik has not seen "the light of the sun," as his children expressed it. He is now, I am told, nearly eighty years of age, and, though blinded by the licentious fury of a Turk, the Turkish agent has no consideration for his peculiar sufferings, his darkened state and the decrepitude of years, but, for a sum equivalent to £2 10s. of English money, has incarcerated him in the dungeons of Beled. We lent a ready ear to the sad tale, and have promised to write to the Zabit in his behalf, having in fact good grounds for a friendly interference from the Zabit's recommendation of us by letter to a man whom we find in the custody of his agent, and therefore incapable of attending to his wishes. A despatch was accordingly sent to Sumeycheh, with a request that the blind Sheikh might be freed from his bondage, the messenger being at the same time charged to pay the sum he is detained for, if his release could not be effected otherwise. In a few days we had the satisfaction of sending the order directing his emancipation from prison, received with a note full of unmeaning complaints and apologies, but not a hint on the subject of the debt; we found, however, that our surmises on this head had not been far wrong, for the person sent to release the unfortunate Sheikh was desired to acquaint the agent of the tender that had been made, with full authority for him to accept, but not to demand, the uttermost farthing, in return for the liberty that had been accorded. The hint to this effect on the part of the agent, with a show of extolling his master's liberality, was actually intended as an indirect plan of securing payment, which was accordingly made; and it now remains a question whether the sum is shown on the profit or loss side on the State accounts, for with the latitude granted and a knowledge of the character of these worthies, the Vakeel is doubtless enjoying what is looked upon by all understrappers as a godsend, in other terms, an opening given whereby they can enrich themselves at the expense of both parties, and, in this respect, so universal is the custom that but little shame is felt at such a proceeding. It is in fact another link of the great chain of corruption which surrounds all social relations, whether of State or otherwise, in this country, and is passively submitted to by the masters, for servants, as I have mentioned before, have either no

salary at all, or it is so small, that this has become a sanctioned system of reimbursement during a term of service.*

The Majummah were in raptures at the interest we took in the release of the old Sheikh, attributing our motives to a personal regard for the tribe, which, of course, we did not deny, though we had more selfish reasons for conciliating their favour, irrespective of the sympathy the treatment of the blind patriarch called forth. In fact the Dijeil was to be crossed on the morrow, and without their aid we could not effect it. After the messenger had been despatched, and the circulation of the coffee had tended to dispel the remembrance of their wrongs, we inquired after the Chali, as the ridge which has hitherto been identified with the Median Wall of Xenophon is called. We are informed that it is close on the other side of the Dijeil, and all parties agree in saying that "it runs to the Euphrates across the Jezireh," or Mesopotamia. Here then, one would think, was evidence sufficiently conclusive, and, accordingly, a letter was despatched to Sheikh Hassan, a Dellim chief, for an escort to accompany us along its course. This tribe is encamped opposite Samara, having come from the banks of the Euphrates, which they usually do in the spring, for the sake of the rich pastures that in this season spontaneously shoot up on the high grounds here bordering the Tigris to the west. After much cross-questioning it was, however, elicited that but few of the Majummah had been at its termination, owing to their never venturing, for fear of plunder, beyond a certain distance of the protecting Dijeil, and in a little time, by persevering in our queries, we found that but one old man had traced it on a hunting excursion after antelope, as he said, to a distance of four hours from the spot we are in. As an answer could not be received from the Dellim until the evening of the next day, we determined on making a partial examination in the mean time. The tribe readily agreed to construct a bridge of wattles and earth across the Dijeil, and a couple of the Sheikh's sons volunteered to accompany us on our examination,

* The system has doubtless prevailed, more or less, from the earliest ages. The Scriptures indeed are not wanting in like instances of mal-appropriation, and the punishment of Gehazi for a similar deception on Naaman the leper is familiar to every one. Elisha, however, was a more scrupulous master than the modern Turk, whose hands are red with deeds such as Gehazi's; and it is a consciousness of this defect in himself that allows the master to connive at the acts of the servants throughout the east. Complaints made on this head answer no good purpose, for the judge, like the arbitrator in the fable, appropriates the "oyster" to himself by way of settling the dispute. I was once condemning the laxity of the law in this respect in an assembly of these people, when one of the knowing ones retorted by arguing that the speed with which decisions were arrived at in the east did away with the anxiety and expense attending law proceedings in England, where, in the end, both parties were frequently ruined by the interminable delay on a matter that had originally been of but little value, if possessed by neither party; this was a rejoinder I little expected, and, I confess, took me aback for the time, for in many cases it was but too true.

though the old fellow stoutly refused at any price to be of the party, saying that he was too inactive to venture now on the Bedouin haunts, though he had laughed at their beards pretty well in by-gone times.

March 27th.—Leaving the dromedaries and instruments with the more inactive animals, servants, and tent, to proceed to the bridge at Harbeh, where I proposed returning by the desert route in the evening, we mounted, though personally suffering much pain, having incautiously reclined on a penknife which was placed open upon the carpet, and thus received the entire blade into the sinews under the knee-joint. Recrossing the Alth and Mastansir canals, we skirted them to their junction with the Dijeil; the spot from which they emanate being exceedingly high and affording a good view around.* To the west there is no sign of habitation nor a living being to be seen; but the works of man lay extended as far as the eye can embrace. The line of mounds running perfectly straight in a direction of 206° is pointed out as the Chali Batikh, and is the ridge that has hitherto been considered by modern geographers as the Median Wall; but its materials in no way answer to those of Xenophon's description in the Anabasis, being nothing more than a ramp or high dike composed of a hard pebbly soil thrown up on one side (the south only) from the excavated trench at its base. Its north-east end was originally connected with the great mound on which the tomb stands, mentioned in the note below, but the Izhaki canal, in a later age, has severed the dike from the great ruin, in its course to the south-eastward.

The Izhaki itself, of the ample dimensions of other ancient arteries, runs parallel in this part with the modern Dijeil just above the connection of the rampart and canal; but, while the Dijeil is led in a curve to the east of the ruin, the Izhaki, as straight as an arrow, here passes it to the west, and traverses the country in a direction of 163°. The

* The Dijeil canal here takes a small curve to the east, sweeping round a high mound of earth, which, I have little doubt, marks the site of some position of antiquity. On it now stands a Mahomedan tomb named Khathr Elyas, one of the many of this name that have resting-places noted in the country. I have little hesitation in pronouncing this quadrangular mound as connected, perhaps in remote antiquity, in some way with the mounds of Jibbareh exactly facing it on the opposite side of the old bed of the Tigris.

Refer to Appendix under U, for the bearings taken on these elevated mounds, which anciently were washed by the Tigris when it flowed in its old bed at their base. I shall again allude to this spot in considering the position of the great dam across the Tigris.

The present name, Chali Batikh, is, in my opinion, a corruption for Chali Batihh. The first word I am unable to give a derivation of, unless the rampart and ditch resemble the Persian چالی or hollow way made use of by weavers for placing their feet against when at work. It is evidently a Persian word. The latter term, Batikh, with the ignorant Arabs has doubtless usurped the less known but expressive word بطیح a name generally in use among Arabian authors for marshy and gravelly tracts of ground, where waters collect from higher lands, and to this place strictly applicable, as will be seen when describing it.

alignments of a large town are also seen in rectangular lines of white mounds, now raised only a little above the level of the country, immediately to the right of the Chali. These mounds are termed Khayt al Abiad* by the present occupants of the territory, from their white appearance. They embrace an area of considerable extent; one angle of the walls just touching upon the trench of the Chali Batikh. The appearance altogether points to the locality as being formerly a very populous one. Our party, as far as our knowledge extends, agree on its antiquity, referring the works to the days of Nimrud, and, in the desire to convey information suggested partly by their own ideas, partly, perhaps, by erroneous and simple traditions not worth recording, proclaim, in addition to a surprising ignorance, an absence of all interest in anything relating to the history or the common geography of the neighbourhood. As we scanned the country around, we heard them even confounding the great rivers themselves by calling the stream flowing at their feet by the name of Al Frat, the distinctive title of the Euphrates; nor afterwards, when corrected on the subject, would they refer to it as the Dijleh or the Tigris, habit having confirmed them in the use of the term Al Frat, though, when argued with, they readily enough acknowledge their error. The source of this confusion is, however, easily seen, and is attributable to the annual vist of the Dellim and other tribes, whose territory is on the Euphrates, bringing with them to the banks of the Tigris the cherished name of the stream that has flowed past their homes from childhood, and which feeling in the Arab, in his utter contempt for usages other than his own, cannot be eradicated. This great love of a familiar nomenclature† in the Arab is, indeed, one of the obstacles that the comparative geographer has to overcome in his path to truth. A patient investigation may elicit a great deal at times, but generally the changes and migrations of tribes have been so frequent and rapid in their succession, that the labyrinth before the inquirer cannot be pursued owing to a disconnection at the outset, the effect of ignorance and a perfect disregard of such matters in the minds of a purely nomade people.

A precarious bridge, that formed a catenary curve as the unmounted horses were run across it, was at last constructed, and the party stood

* خيط ابيد Khayt Abiad, "white lines."

† This proneness to substitute patriotic and familiar names for the established appellations in vogue in a country existed from the earliest times, and the system of transplanting the human race from the conquered provinces to foreign and remote districts tended further to alter the phraseology of proper names. Indeed, it is only since geography has become a science, that the integrity of nomenclature has been preserved in its fullest sense, and even now is liable to considerable distortion from the inattention of compositors and from bad copyists, notwithstanding every precaution is taken to prevent it, by printing the proper names in the manuscripts and by accentuating the vowels so as to convey the proper pronunciation.

on the other side of the Dijeil. There was evidently much reluctance to proceed, but going ahead, the rest soon followed into the solitude. It was, however, remarked that, instead of the song and laughter, the usual accompaniments of the march along the safer tracts, a dead silence prevailed, while every one kept alert in the saddle, with a stretched neck and a straining eye to catch the slightest object in the distant horizon. Not a pipe was lighted for some time until confidence had succeeded to the alarm at first felt, the march being conducted parallel to, and under the lee of, the mounds of the Chali Batikh, so as to prevent observation from the higher lands to the north. In this way we sped along in silence and at a quick pace, every now and then a keen old negro of the party, well used to these wilds, just ascending high enough on the ridge for his eyes to scan the prospect beyond. In a quarter of an hour from the Izhaki we reached the angle formed by the walls* called the Khayt al Abiad. This touches the outer edge of the ditch on the north side of the Chali ridge, and without doubt enclosed, at a very early period, a large town. Nothing but the lines of its walls marked in the soil remain; but these, worn down as they are, attest to its great age. Leaving this we maintained the same course of 206°, the ridge, hitherto deemed the Median Wall, bearing throughout the same aspect and character as at first; and from the uneasiness felt by the party it was thought, at one time, that the reports of its extending to the Euphrates were well founded. Determined, however, to persevere at all risks for three hours before turning back, we continued onwards, and in fifty minutes from the Khayt al Abiad the true character of the work was at once seen, by an opening in the ridge† or dike corresponding to a broad and shallow valley, that, rising at the base of the undulations of the higher country to the north, traverses Mesopotamia in the direction of the low grounds to the south-east. The ravines in the undulations above are all seen to lead into the head of this valley, which, cut off from the lower portion by the Chali Batikh,‡ forms a basin-like reservoir, that, when the rampart was perfect, must have resembled a vast lake at a time when the copious winter rains coming from the uplands contributed to its supply. In addition to the valley we have mentioned it would appear, from a canal on either side of the opening in the dike, that any great body of water in the reservoir could be diverted on to the more elevated tracts adjoining, for a more extensive irrigation, while,

* The east wall appears to have extended as far as the Izhaki in a line of 340°, while the south one ran in a direction of 239°.

† Appendix V.

‡ It is known also as the Sidd Nimrud, "dike of Nimrod"; the other, however, is the more general term, this latter being, though a very appropriate title, but seldom heard. The openings had gates in all probability fitted to them, for regulating the supply of water when in operation.

during seasons of drought or any great pressure on the dams in the Tigris, a copious body of water might be led off by the trench of the Chali into the heart of the country, to prevent a rupture of the great dikes that must have existed in the neighbourhood for diverting the stream into the Katuls, and which dikes, I am inclined to think, extended across the Tigris from the north-east end of the Sidd Nimrud to the present mounds of Jibbareh on the opposite bank of the old course of the river; but I shall recur to this subject again after an examination of a spot called Kanatir in the vicinity.

Leaving the openings, another mile brought us to the termination of the ridge, or dike, on the other side of the valley, distinctly marked by having had a fort at its extremity for its protection; the walls and bastions at the angles being plainly perceptible on the slight elevation its ruin has formed. The whole bears evidence of a great antiquity, though the illusion that has hitherto existed of its being identical with the Median Wall of Xenophon, or the rampart of Semiramis of Strabo, must now be dispelled, for neither in its construction nor extent will it in any way answer the description of the ancient writers, being, in point of fact, a mere dike thrown up to a certain extent only for an express purpose, and discontinued when that purpose has been accomplished: at the same time, it remains an interesting proof of the great value set by the ancients upon water, which appears to have been collected from every available source, and as carefully distributed for the attainment of a more extended cultivation.*

* Though a regard for correct geographical ideas has made me overthrow previous received opinions in respect to the locality of the Median Wall, I confess with regret that, as yet, I am unable to assign a new position to that structure. Xenophon's description of its materials, "burned bricks laid in bitumen," is too clear to permit a dike of pebbles and earth to be mistaken for it, while, at the same time, the information he conveys of its dimensions and extent, and its "not being far from Babylon," will scarcely allow us to doubt its existence at the time of Xenophon's visit, though not a vestige of it may remain at present. I am not quite sure, however, but that a strict inquiry will reconcile the mass of Akr Kuf, as having formed a portion of the wall in question, not only from its height and character, but in respect to its situation with the Saklawiyeh canal, which latter, with all deference, and a wish to rescue ancient footsteps from the dust that has obscured them, I am inclined to recognise as the great trench "five fathoms broad and three deep, extending upwards as far as the wall of Media" (Anabasis, book i.); for, following the general course of the Euphrates, but not its windings, which all armies must do, the itinerary of the marches made at leisure before the fatal battle of Cunaxa shows a distance of thirteen and a half Parasangs performed between the Pylæ and the trench. Now it will be seen, on reference to our improved maps (Chesney's), that a place called Bukkah, a little to the south-east of the modern Hit, will correspond with the Pylæ of the Greek author, not only in its character, but perhaps also in its name; for Bekaa بقاع* as it should be written, I think, has reference to passes lying between abrupt cliffs and to deep ravines in regions varying from tertiary to alluvium such as here conduct from the hard

* The valley called Bekaa, forming a pass the entire length of Syria between the Lebanon and the Ante-Lebanon ranges, is an instance of the application of the term.

The previous identification of the Median Wall with the Chali Batikh is, however, a natural enough error, if grounded on information alone, and I confess to having laboured under it myself for the last ten years, though on the spot on a previous occasion. The Arab, with a wish to please, exclaims "Meshwar" to the question of its length, extending his hand at the same time in the direction of its course, and over a level desert such as this, not having any determined position to fix his idea of extent upon nearer than the Euphrates, terminates it there when asked to define the meaning of the phrase; in the same manner as, in speaking of events that have happened but recently, he uses the general term Ams, literally meaning "yesterday." This has a sliding scale of application, extending from last night over the twelvemonth that has previously elapsed, and, in this respect, corresponds in ambiguity with the Meshwar of distance, which has any length, from a horse's walk backwards and forwards to a journey of a week's duration. From the conversation in the Majummah camp the error would have been continued, had I not proceeded to the spot; and, indeed, so lax are they in speech, that notwithstanding we stood upon the limit of the dike, which one and all had called Chali Batikh for the previous twenty-four hours,

Desert to the alluvial tracts of Babylonia, and in this respect may be considered as the equivalent of the Πυλη of the historian. Again, allowing the Parasang of the Greeks to be of eastern origin, and as such, as in name, to correspond with the Farsakh in use by the Arab geographers, a value of 5,063 English yards has been found as its equivalent from distances noted by them and subsequently measured accurately by myself. These give, in most instances, two and a half geographical miles exactly to the Farsakh, and will here make a total of thirty-four miles; a distance which will be found to agree, as near as possible, with the measurement between the places recorded as the Pylæ and the trench.

* To enter into any further disquisition on the Median Wall, or the marches and the countermarches of the "ten thousand" subsequent to the day of Cunaxa, until a stricter search has been made, would be absurd, but, with our superior geographical knowledge, it is a duty we owe to the memory of the old writers to reconcile, as far as possible, any part of their statements with the truth. It is a work, doubtless, of great difficulty and labour, as the elaborate discussions of D'Anville, Rennell, Vincent, and many others, that have been given to the world, testify to little purpose, and, as regards the positions of Xenophon subsequent to the defeat at Cunaxa, could not be expected otherwise, suffering as the army was from privations, and harassed on all sides by a vigilant and treacherous enemy, in a difficult country, where scarce a prospect remained of reaching their homes, then at a distance of two thousand miles. With respect to the Median Wall, particularly, other historians fail to take any notice of it, unless the mere mention of a structure called the Wall of Semiramis by Strabo, on the authority of Eratosthenes (lib. ii. 143), be considered as identical with the Το Μηδιας καλουμενον τειχος of the Anabasis. This we find twice noted by that geographer, once in reference to the course of the Tigris (lib. xi. 151), and again when describing the distance between that river and the Euphrates. Herodotus, however, who preceded Xenophon only by half a century, devotes a considerable portion of his work to a detailed description of Babylonia and Media, without (as far as I can see) mentioning the existence of a wall at all, which, had it divided Mesopotamia in two portions, according to the ideas of all who have latterly written on the subject, could not fail of being remarked by so minute a historian. It does not appear, however, that this author was so well acquainted with localities on the Tigris from his vague

they had now managed, in a distance of six miles, to confound with the Izhaki canal. A traveller, unacquainted with the language of the country, and receiving his information through an interpreter, would be thus liable to endless deceptions, particularly when numbers, breadth, and extent are conveyed by idiomatic phrases or metaphorical signs. Inquiry, indeed, in this country is attended with much vexation and labour, from the proneness of the Arab to exaggerate and falsify the little knowledge of locality which he really possesses, and the person who seeks for authentic information will do well, therefore, to trust in nothing but his own eyes.

We now turned to retrace our steps in the direction of the bridge of Harbeh, our guides first minutely examining a "trail" that had been under their scrutiny for the half hour we remained on the spot. Unseen by us, it appears that four horsemen, having discerned our party in the distance, had made all speed to get away before they could be overtaken. The Arabs declared the footprints of the horses as not half an hour old, and, indeed, a little further on some fresh horse-dung

and unsatisfactory descriptions of the tributaries of that stream, and the undefined position of Opis, then, we may presume, the largest town on its banks. (Herodotus, in Clio, clxxxix.) Arrian, the historian of Alexander the Great, not a century after Xenophon, is also silent with respect to the wall, though Alexander in person navigated the Tigris from the sea to Opis; and I, therefore, conclude that, instead of separating Mesopotamia in two portions, the Median Wall was a mere local barrier of defence, running, perhaps, in a north and south direction between the meeting canals drawn from the Euphrates and Tigris. I can, indeed, find no authority for the inference arrived at on this head by all modern writers, and regard the wall in question as a protecting bulwark merely extending between the great trench, or Saklawiyeh, and the banks of some of the canals drawn from the Tigris remarked by Xenophon, which ran down to meet the former in the direction of the modern named Izhaki, and probably erected on the confine of the tertiary washings and the alluvial tracts to the south-east, as Akr-Kuf stands at present. It would thus have offered security to the towns, villages, and cultivations occupying the intervening space between itself and the Tigris (of which the great city of Sitakr was perhaps the capital) from an invading force, whose advance was always from a north-westerly direction. That part of the country below the Saklawiyeh and the portion also east of the Izhaki to the north, we may presume, were sufficiently well protected by the conduits themselves, which, unlike dead walls built across desert tracts, could support a large community for their defence established in forts erected along their margins. I yet hope to find some clue to its position in ruins named Deir and Stehh on the confines of the present marshes, north of Akr-Kuf and west of the Izhaki canal, as I conceive the "provision villages," and the district in which the "ten thousand" spent an anxious month of alternate hope and alarm, occupied the triangular tract of alluvium now embraced by the angle formed between the Tigris, the Saklawiyeh, and the line of demarcation between the desert and cultivated soil. I never, indeed, understood thoroughly how modern geographers agreed to fix on so extensive a line as the distance is here between the Tigris and Euphrates for the position of the Median Wall, particularly as the intermediate space is a tract of pure desert higher than the level of either river, incapable of being watered by canals, and yielding nothing that a force requiring to be kept on the spot for its defence could subsist upon. With a little consideration, it must be apparent that walls traversing Mesopotamia would make but inferior defences when compared with deep canals, such as we know existed, and which, indeed, offered most serious obstacles to an invading enemy.

proved them to be right. From a closer inspection they even ventured to pronounce the fugitives as a party of Dellim, but I never could understand how they had arrived at the conclusion. It is certain, however, that in tracing they are very keen, and in this case every organ of the party was at work to assist perception, in much the same way as an ore-seeker would grub among the soils for traces of the metals he was in quest of. As we had come along, we had evidence of the spot being a favourite winter locality of the Bedouins, spread over as the plain was with camel-dung, and the marks of their camp-fires under the lee of the Chali, the high mounds of which doubtless afford them a good shelter from the piercing north-west winds. Progressing now on an east-north-east course over the desolate plain, our party became more loquacious the nearer we approached the inhabited district. In an hour's fast walk, passing many herds of antelope, we came again on the banks of the fine old conduit, the Izhaki, which keeps onwards as far as the eye can see, in the same unswerving line that has been noted before. Its dry bed has here a breadth of some fifteen yards with banks elevated much above the country.* On the east side, the line of the

* Appendix U. The Izhaki has the character of a first-class canal, and though Abulfeda relates in a notice of Tekrit in the Taquim al Buldan, taken from Ibn Sayed, that it was dug in the time of the Khalif Matawakkel, A. D. 850, by Izhak ibn Ibrahim, the chief of the Khalif's guard, we may presume that he repaired or re-opened it only; it subsequently taking his name, after the usage of Mahomedans, whose principal aim seems to have been the erasure of all records of the past, so as to refer everything to the immediate era of their own times. At present even, the admission of water into an old duct by an opulent individual is a sufficient cause for its baptism by the name of the party, which it retains until re-excavated by another. In Mahomedan countries, in fact, such a system of nomenclature points more to the era of decline than to the period of construction of public works, and the Izhaki may, therefore, be considered as but dragging out an existence ten centuries ago; for, had it been in operation at a more advanced period than we have mentioned, it would not have perhaps borne its present name but the appellation of its last restorer, as these irrigants require periodical dredgings, which, in canals of the extent of the Izhaki, could only be done by a Government through a favourite minister such as Izhaki ibn Ibrahim. Indeed, we find in the same notice, on the authority of Ibn Hokul, who wrote in the tenth century, that the Dijeil, as I have remarked in the description of that canal, then severed the Izhaki in two, and it further states that the Izhaki was the most northern of all the canals (derived from the right bank of the Tigris) which watered the territory of Irak (Abulfeda). It is, therefore, certain, that it could not have been in Izhaki's day open to its full extent, that is from a little below Tekrit and reaching to the neighbourhood of Akr Kuf and Baghdad. The Kitab al Akalim corroborates this in a measure by describing the Izhaki as reaching only to Khatireti or Matiret, as it is variously spelt, on the old course of the Tigris, the exact situation of which (unless it be at Harbeh, p. 256) I cannot define; but in the catalogue of towns in the same work it is represented as standing next in order to Al Alth, which position is identified in the present paper. Though I have not as yet traced the Izhaki along the whole of its course, I feel all but convinced that the Nathriyat canal (p. 232) and Serakha duct (p. 227) are emanations from it, if one or the other be not the trunk stream itself. The name in the Arabic is written اسحاقی Ishaki (Isaac), but I have placed a *z* in lieu of *s* before the deep *h*, to render the pronunciation by the European less liable to error.

modern Ferhatiyeh, now also abandoned since the great plague of 1831, is seen to run parallel to the course of the ancient duct, whose breadth contrasts strongly with the attenuated (one yard wide) watercourse of the present day. Between the Izhaki and the ancient course of the Tigris, a complete system of irrigation is seen to have been in force, for five other considerable canals, extending like radii from a bend of the old channel of the Tigris above the ruins of Harbeh, carried the waters of the river over the intermediate space. In two hours from the end of the Chali Batikh we had reached the bridge of Harbeh, near which, in the spaces between the canals above mentioned, were several camps of the Majummah, whose inmates had not agreed with the Zabit of the Dijeil on the terms demanded by him for the possession of land within the territory of irrigation, and were, therefore, expelled the limits. These, however, comparatively rich in flocks and in the possession of fire-arms, cared little for expulsion, being too independent to work unless upon their own terms. They kept within a certain distance of the bridge for fear of surprise by the Bedouins, having their camps between the radiating canals for a further security against horsemen, whose advance from a distance is duly signalized by scouts constantly on the watch from the high embankments of the old conduits. Our party created some alarm to them when afar off, but the smallness of numbers, distinguished as we approached, soon set them at ease.

The Majummah, as the name implies, are a large tribe congregated from minor families of Arabs, who are individually so small as to be unable to protect themselves, and parts of larger hordes, who have originally migrated from a distance on account of feuds or oppression on the part of the Government. They lead both a pastoral and agricultural life, and are only so far nomade as to wander over the territory assigned them, which is the most northerly of the cultivated district bordering the Tigris and Dijeil. Parties of them are found in the Khalis district east of the Tigris, whither they have gone in search of employment, but by far the greater portion have their residence on the west of the stream, and extend from Sumeycheh to opposite Samara. They bear the character of most arrant and expert thieves, not in the Bedouin sense of the term, who, like the Borderers of old, "lift" whole droves of cattle at a time, and reckon "border theft and high treason" true gentlemanly accomplishments; but as petty larcenists, that, like the shark in the wake of a ship, will follow caravans with a prying eye until they observe something worth purloining, which they seldom fail in the end to secure. On these expeditions they are generally well known, and precautions are therefore taken, when a Majummah is seen marching in company along the road. Not unfrequently they receive desperate wounds in following their favourite pursuits; and this evening

we have one of the principal men craving a remedy for deafness and a singing in the left ear, which, he says, is the effect of a blow on the head, inflicted on him, whilst sitting innocently down in a camp at Samara, by a native of that place. On inquiry we find his brother had been shot *flagrante delicto* while removing the contents of a saddle-bag from a caravan at night; and this individual, from a sense of duty inculcated by the law of blood, notwithstanding his brother's crime, was at the time of the blow in search of the slayer to take his life in return for that of the guilty dead. The party, however, had received a hint of the design of our friend, and was beforehand with him, by felling him with a heavy stick, that would have split any ordinary skull into pieces, as he sat on the ground patiently awaiting the time for his purpose. The blow rendered him insensible for the moment, and paralytic for months after, but, although he has not been able to meet the principal in the affair since, he quietly informs us that he has had partial satisfaction by the deliberate murder of two of his relatives; so vindictive indeed is this spirit of revenge, that this man openly avows his intention to continue the slaughter, as he finds opportunity, for, as he says, his "brother's blood is still crying unto him for vengeance" on the murderer, who, if lucky enough personally to escape the search which this worthy purposes to institute again in a few days, will have to lament the death of many of his tribe before his offence (that of killing a highway robber) be expiated. Interested in the subject, we asked how many lives, in the event of his not meeting with his real enemy, would suffice to atone for the blood of his brother. He coolly responded, "Five! and as I have shot two there remain but three more, whose days, Inshallah! are numbered." Such a confession of premeditated and wholesale murder did not surprise us, knowing that the Arab, at a distance from the capital, consults only his own passions in the commission of any outrage of this nature, and, even there, the price of blood is not confined to the strict law of "an eye for an eye, a tooth for a tooth, or a life for a life," owing to the apathy of the Government and the influence of party. The Jew and the Christian, indeed, may be slain by the Mahomedan with comparative impunity, certainly at no risk that his own life shall be forfeit for the slaughter of one of his species, whose difference of creed alone causes him to be ranked in the eyes of Islam as but little better than carrion. With the tribes, however, the evil is not without its good, for "blood for blood" prevents the commission of murder in many cases, from a dread of the consequences involved in the act. After examining our friend's head we commended his resolution of proceeding again to Samara, adding that we had no better prescription for the cure of his malady than a similar blow on the other side of the cranium, which he was likely

enough to meet with there, and which, doubtless, would effectually prevent a return of the "singing" he complained of, by rendering him for ever unconscious of either feeling or sound. It was some time before the drift of this was perceived, when a faint smile overspread his sullen features, and the miscreant took his leave, by no means pleased with the result of his visit. After his departure, his own party condemned the blood-thirsty spirit he evinced, which is not, indeed, usual to the extent of this fellow's disposition, and a fear of being involved in his acts had already led most of them to pitch their habitations at a distance from his tent, which, I am told, seldom contains any other than his innocent wives and children; for he himself is constantly abroad, not so much on account of the vow he has made, as from dread of a similar fate awaiting himself at the hands of the other party, only to be avoided, as he supposes, by a constant change of locality. The brand of Cain is, indeed, upon him, and, marked as he is, he resembles a wild beast at bay, whose aim before he falls is to perpetrate as much mischief as he can.

The night was just closing in when the arrival of six horsemen was announced, and in a few minutes more, armed with sword and lance, they dismounted at our bivouac, which was made in the same position as it was a few evenings before. We found Hassan, the Dellim Sheikh, whom we had addressed by letter from the Majummah camp, had despatched his uncle, four brothers, and his son on the instant, to do our bidding, and to escort us wherever we thought fit to go. They were all fine-looking men, and, as usual with the Bedouin tribes, had a natural air of independence and freedom which cannot even be assumed by the partially domesticated families, who act as shepherds only, or are employed for the cultivation of the soil. Though but poorly clad, as most Bedouins are in the Zebun,* Aaba, and Kefiyeh, with a greasy sheepskin, worn like the hussar pelisse on one shoulder, and the whole much the worse for wear, their chief knew the position he was entitled to, and at once assumed it on the carpet beside me; first, however, performing the Bedouin salutation of laying cheek to cheek on either side the face, a ceremony I could well have dispensed with, redolent as his person was of an unwashed sojourn in Bedouin camps, and heightened by the effluvium from the sheepskin which I was embracing, and which, from its shining appearance, had doubtless performed the office of table napkin by day, while at night it had answered for a covering, perhaps

* The Zebun زبون is the outer garment worn within doors; the Aaba عبا is a mantle or cloak thrown loosely over the person when abroad, and the Kefiyeh كفيه is the name of the peculiar kerchief worn as a head-dress by all Arabs, the marks upon which in many cases convey the name of the tribe, and in this respect resemble the insignia worn in the head-dress of the Scottish clans.

during a score of years. Mutual inquiries as to health having been gone through, and his companions seated around on the ground, he informed us that Hassan, the chief Sheikh, had desired them to accompany us across to the Euphrates, or to Eblis* if we had a mind to go there. This was a compliment which, however rude it would sound in English, meant nothing more than the party was entirely at our disposal. They informed us that the fugitives of the morning were a party of their own people, who left them the night before in search of plunder. They had met each other on the road and described the numbers of our party with exactness, though we had not seen them. It appears they had succeeded in capturing some five or six laden beasts belonging to the Dijeil district, and hurried off to secure their prey beyond the reach of pursuit, which, they imagined, had already commenced when we hove in sight of them. Our new friends expressed some disappointment when told it was not our intention to proceed, as we had purposed, to the Euphrates; but the wound I had received in the leg from the accident of last night served appropriately as an excuse, and not the having satisfied ourselves with regard to the extent of the Chali Batikh, with which they would have been but little pleased. The blood still on my clothes satisfied them on the former head, but it subjected me to a five minutes' commiseration from the whole party, which, fulsome and unmeaning as it was, could scarcely be submitted to with patience. It shows, however, the contrast in the Bedouin character, which is a compound of dignity and obsequiousness, the former being the natural attribute of man in an independent position, who, confident of his power, and proud of the lineage from whence he is sprung, cares not for privations or poverty as long as he is personally free, though he is cunning enough in his attempts at softening these hardships of his life, by every means that avarice can adopt. Where there is a prospect of advantage, by the exercise of the latter part of his character, he will fawn and flatter at a rate sufficient to disgust before he has been five minutes in company, while, on the other hand, he displays his power, when thinking necessary to resort to it, in all manner of cruelties and oppressions. Yet he is (or was) not without his code of honour, in which the rights of hospitality and the sanctity of plighted word were esteemed, at one time, as sacred and inviolable. Now they are but as bywords in many tribes, owing, in most instances, to deceptions that have been practised on the Bedouins by the Turks, whose great aim has been and is still, on account of their own weakness, to sow dissensions among them, and to reduce the strength of the larger tribes by pitting family against family. The Dellim, however, are but a hybrid race and not strictly Bedouins, though a portion of them follow the

* ابليس One of the cognomens of the arch enemy of mankind.

Bedouin usages and manners. They are reputed rich, and possess both banks of the Euphrates from Hit to Felujeh, opposite Baghdad. In our conversation with these people the true extent of the Chali Batikh was explained as we found it; it would have been otherwise, there is but little doubt, had they not known we had traced it in the morning. We glean from them that there is a similar embankment and dike further to the north, named Chali Jalil ad Darb, somewhere opposite to Samara; but they all agree upon its limited extent, and we infer the excavation and embankment were executed for a like purpose.* They remained as our guests during the night, and had every reason to be pleased with their entertainment, for we were enabled to procure a sheep from the cultivators with which they were regaled and doubtless enjoyed, as among themselves it is but seldom they taste animal food. The following morning we sent them rejoicing on their way to their tents, with a new suit of apparel for the Sheikh and some articles of clothing for each of themselves; promising them an early visit on their own grounds, which, they assure us, abound in wrecks of former cities, over which they will be delighted to escort us.

March 28th.—We now bent our steps to the shoulder of land, lopped off, as it were, by the change in the Tigris's course, which, situated as it was between the old channel of the river, the Atheim, as it formerly existed, and the large intestinal stream, the Katul al Kesrawi, contained many cities, and perhaps the position of Opis also. Modern geographers, either ignorant or forgetful of the great change the Tigris underwent, have insisted on identifying the ruins in the extreme angle embraced by the arms of the Katul al Kesrawi with the vestiges of the lost Opis; but, as the remains in question are evidently of a comparatively recent time, and, moreover, not in the position which we can fairly accord to Opis, we are compelled to seek for the site of this city in another place. Passing through the ruins of Harbeh (where, by the bye, we had further proof of a pre-Islam era in finding a much-worn female face in terra cotta, having between the hair, which is high and curling, the curved horns of the bull as represented in the sketch of devices accompanying the paper†), we crossed the old channel of the Tigris, and in an hour and seven minutes from the bridge of Harbeh came upon another arm of the great labyrinth of canals that, previous to the

* I have little doubt but the embankment and dike of the Chali Jalil ad Darb, when visited, will be found to correspond with the position in which, it may be presumed, the great dam for the northern arm of the Katul al Kesrawi was constructed across the Tigris, and in like manner, as the embankment and dike of the Chali Batikh relieved the pressure on the dams, probably crossing the Tigris between it and Jibbareh; so also the Chali Jalil ad Darb and its trench acted as a safety-valve for the northern bund when extraordinary freshes threatened its stability.

† Marked *a*.

irruption, emanated from the Katul now on the other side of the river. A platform of brick, imbedded in the soil of a great age, points to the position of a bridge* across it, and its direction would show that it was the arm that supplied the town on the east bank of the old bed of the Tigris, just north of Tel Aabr. Twenty-one minutes further on, in an east-south-east direction, after crossing the minor bed of the Shatayt, we stood upon a lofty mound of ruin, now termed Tel Dhahab,† that was strewed in every direction around with bricks and vast quantities of pottery, marking the site of an old town (of which perhaps the mound was the citadel) that had derived its water apparently from one of the canals noted in page 248. Unlike the soil bounding the old channel of the Tigris to the west, the district here is a kind of friable marl, without a blade of verdure, and bearing every appearance of having been frequently submerged. Quitting Tel Dhahab, we cantered in the direction of a still loftier heap that appeared within a mile of us, being situate on the other side of a deep and broad indentation which we had to cross, and in the bottom of which we lost sight of the mounds altogether. To our surprise, too, instead of being a mile off, as we had supposed, the party coming on at a walk were occupied an hour, so deceptive was the distance across the valley, in reaching Tel Manjur, the name of this elevation, which is certainly the highest and most considerable mass in the whole country. Standing on its summit we had no difficulty in recognising the indentation‡ we had crossed as the continuity of the Atheim in former ages, when the Tigris was confined in its old channel to the west; and, much interested in the subject, the determined position§ of surrounding tumuli, in an examination made on this and the subsequent day, proved the whole to have formed at one time the continuous walls of a considerable town that was of circular shape on three of its sides, and straight, as I judge, on the west face, or that running parallel with the indentation formerly occupied by the Atheim. The character of these mounds, Manjur particularly, differed from all others we had seen in our progress, for, though much loftier than the rest, there was but little *débris* of material exposed, like in ruins of a comparatively recent

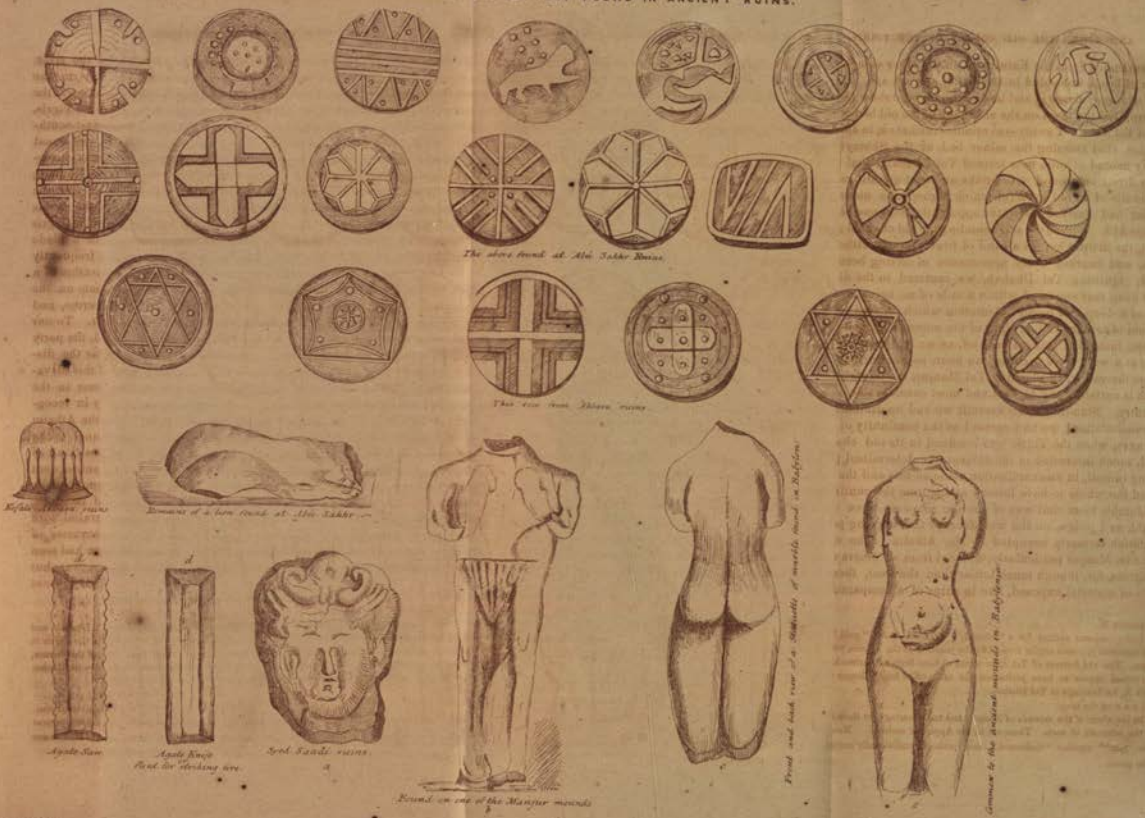
* See Appendix W.

† Tel تل is the common epithet for a "mound." Dhahab ذاهب "gold." Dhahab and Manjur have occupied opposite angles formed by the junction of the Atheim with the Tigris in the early ages. The old fortress of Tel Aabr seems to have been an outwork of the former, and Tel Hyr would appear to have performed the same office for the larger city of Manjur. See Appendix X, for bearings at Tel Dhahab.

‡ Marked *a a a* on the map.

§ I went to the whole of the mounds of Manjur, and took bearings for their individual positions from the summits of each. These are in the Appendix under Y. Manjur, its present Arabic name. منجور signifies "fashioned," and, perhaps, traditionally implies the former beauty of the place.

DEVICES ON POTTERY FOUND IN ANCIENT RUINS.


The above found at Abu Sakhr Ruins.
This row from Akhara ruins.
Kefala Akhara ruins
Remains of a lion found at Abu Sakhr
Agate Saw
Agate Knife
Flint for striking fire
Syed Saadi ruins
Found on one of the Manjur mounds
Front and back view of a Statuette of marble found in Babylonia
Common to the ancient mounds in Babylonia

Translated by H. Rassam

date; the whole being buried under the accumulated dust of ages, which, indeed, is the characteristic of the older vestiges in all this country. The diameter of the city, one geographical mile and a half, whatever its name may have been, proves its extent; and, in addition to its venerable appearance, we found, strewed about the surface of the surrounding country, fragments of saws and double-edged knives, or flints perhaps, neatly made from agate,* the usual quantity of pottery and highly corroded coins in copper, besides, on an adjoining mound, the erect naked figure of a female in terra cotta, with her arms close to her sides, and the hands, though broken off, distinguishable as having supported the breasts; the whole, however rude, being the image probably of the presiding goddess of the country, whose statuettes are frequently found in all parts, fashioned both in marble and clay, and in this minor shape, perhaps, formed the household deity of its people.†

Before claiming a position for the ancient Opis on the ruined site known as the modern Manjur, it may be as well to take a retrospective glance at the records of historians and geographers of antiquity that in any way treat of it or its adjacent streams, so as to render the identity as complete as possible, for, since a better knowledge of the country has been obtained, I have changed my opinion with regard to the royal conduit, the Katul al Kesrawi, being a work of the Sassanian ages,‡ and, on subsequent reflection, identify the canal with the Phuskus of Xenophon.§ Of the works in my possession, or that I have had access to, Yakut is decidedly the most copious of the Mahomedan writers, and in his Majm al Buldan, in speaking of the Katul, refers its excavation to the Kesrawi or Cæsars, the distinctive appellation of the Sassanian kings of Persia; at the same time, however, he does not attribute the work to any particular monarch of that house, but gives the usual information employed by his sect,—the "days of ignorance,"‖ —as the period of construction, which may bear reference to any era prior to Mahomedanism. It allows sufficient latitude, however, to give it consideration even as a design of a remoter age than the Sassanian,

* These are represented in the sketch sheet of devices, &c. *d d.*

† The rude effigy here noticed is shown in the sketch accompanying the paper under *c*, and the same figure excellently designed in marble found at Babylon is seen under *c c*.

‡ In a previous paper on the Katuls, the traditions of the country and notices of the Arab geographer Yakuti made me describe the canal as a work of the Sassanians, from the Kesrawi being named as the monarchs of the period when it flourished. The term will, however, apply to an earlier Persian dynasty, and from other notices in history we may, perhaps, refer its excavation to the era of the Kaianian kings.

§ This I shall endeavour to explain hereafter.

‖ ايام الجاهلية Ayam al Jahiliyeh, "heathen darkness," lit. "days of ignorance," comprising the whole period between the creation and the advent of Mahomed, when the *light* first dawned upon the Arab.

and there is little doubt but that the Katul al Kesrawi really existed in a highly flourishing condition in the very early history of those kings under the name of Duras* (Dura of Scripture perhaps†), certainly the Dura‡ of Zosimus and Dural Harith of Yakut,§ now abbreviated to Dur, the name of the modern village situate a little north of the spot, where the canal emanates from the Tigris.‖ The historians of Julian's campaign¶ enumerate, besides, many towns on the line of retreat subsequent to the Roman army crossing the Tigris at Ctesiphon, of which Sumere, Duras, and Symbri are yet recognisable, the first and last in Samara and Zimbur** of the present day, and Duras is another title of the Katul, owing to its source being at Dur, the ruined position occupied by the modern village of the name alluded to above. So far we have positive evidence of identity, and in the term Duras we cannot fail to trace the Torna of Theophanes, and the Tornadotus of Pliny, in connection with Major Rawlinson's exposition†† of the appellations Katul and Katur, the names by which the conduit is imperfectly known to the ignorant people of the present day, but mentioned fully as the Katul al Kesrawi in the works of all Arab geographers.

Prior to these more direct notices‡‡ of the great conduit, we have but

* Zosimus, book iii.

† Rich's Kurdistan and Nineveh, vol. ii. chap. xviii.; Daniel iii. 1. Kitto, however, deems the place without the province of Babylon, and merely an idle supposition (Bib. Cyclop.).

‡ Zosimus, iii. 89. The treaty of Jovian, which wrested the eastern provinces as far west as Nisibis, was ignominiously concluded here after the death of the Emperor Julian. Dura is mentioned by Polybius also as a fortified place during the wars of Antiochus against the rebels of Media and Persia.

§ Majm al Buldan, art. Katul.

‖ Described in Journal Asiatic Society, Bengal, April 1847. Its position has been well determined.

¶ Zosimus and Marcell. Ammian. The ill-fated Julian, I have no doubt, met his death on the banks of the Katul al Kesrawi, in the vicinity of Samara.

** At the place mentioned the Katul has been cut through by the irruption of the Tigris. Symbri, or Zimbur, was overwhelmed in the catastrophe that involved the whole country in one common ruin by the destruction of the great conduit. It was situated on the Katul between the now ruined cities of Nai and Akbara, and to the north-west of the modern village of Sindiych, on the east bank of the Tigris, as it at present flows.

†† Royal Geographical Journal, vol. x. part 1, 93, and note *. D'Herbelot notices the Katul when the Khalif Matawakkel contemplated the building, or, as it should be, the restoration only of Samara under the happy Mahomedan title of Serrmenrai, a facetious Arabicised form of its more ancient name. It would appear, indeed, that the titles of all the cities in this tract, under whatever dynasty, had reference in some way to the pleasantness of the locality, for Qadesiyeh, Sumere Karkh, Garm Kirm, Kirman, or Serrmenrai, have, perhaps, an affinity in meaning. These were used when new works of any sort were projected, to the destruction, in most cases, of the older names.

‡‡ Since the above was written I have found in Polybius, lib. v. chap. 5, that both Dura and the Katul al Kesrawi are mentioned in the Wars of Antiochus the Great, against the rebels of Media, almost under the same forms as they are noted in Mahomedan authors, and, indeed, as they are colloquially named by the better informed of the present day. In the History of the

collateral testimony of its existence, and this I venture to draw from the "weirs and other impediments" mentioned by Arrian as placed by the Persians across the Tigris to hinder an enemy's fleet from invading them that way.* By Arrian and Strabo these impediments are placed at Opis and Seleucia,† up to which towns, noticed as the emporiums

Seleucidæ in Syria, published in London by Osborne in 1747, p. 210, the country is minutely described between the Lycus (the modern Zab) and the "King's ditch" (the Katul al Kesrawi), as unfit for the marching of troops, while the latter is pointed out in the speech of Zeuxes as an obstacle to success in the event of the *ditch* being possessed by the enemy.

In itself this passage of Polybius will confirm the existence of the Katul al Kesrawi in connection with Dura so far back as the third century before the Christan era, and the aspect of the country *north* of this great conduit will be found from my own description, a few pages further on, to be in all respects unchanged, for it is naturally a desert tract in all ages, as noticed by Xenophon, from the time the Greeks crossed the Physcus to their arrival at the villages of Parysatis, near the Zab. Heraclius's Campaigns will also bear witness to the difficulties of the country and the nature of the excavation, the "royal ditch" opposing great obstacles to the advance of an enemy. The disasters of Julian's retreat are all perhaps referable to the same cause, for immediately his forces crossed the Duras, the Desert was entered, and the enemy possessed of the canal continued to harass them whenever they approached its banks for water, which the troops were necessitated to do, for beyond was a parched-up waste. On the banks of the conduit, Julian met his death, and at Dur his successor Jovian signed away the frontier fortresses of Rome to the Persian monarch. See Ammian. Marcell., Zosimus, and others.

* Arrian, book vii. chap. 7.

† Strabo, book xvi. chap. 1. Opis, when Strabo wrote, appears to have declined in a great measure, to be succeeded by the city Antiochia, founded by Antiochus Soter, the son of Seleucus Nicator, for he mentions it as a mere village, evidently decaying in the presence of the rival city, or cities rather, of the Seleucidæ, which were then increasing on the Tigris and subsequently known as the Beth Seluki in the Syrian records. Pliny, in his sixth book, chap. 17, notices Antiochia, which, if not actually Opis under a new name, may perhaps coincide with the position occupied by Tel Dhahab, the remains of an extensive town contiguous to the mounds of Manjur, and resembling that ancient city, in having, as I have mentioned in describing it, an outwork at Tel Aabr on the bank of the ancient Tigris, similar to that at Tel Hyr, which, to all appearance, was connected with Opis or Manjur. After describing Sitaki, Pliny says, "Ab occasu autem Antiochia (eadem Appollonia Ptolemæi) inter duo flumina, Tigrin et Tornadotum." Here its position is noticed distinctly between the Tigris and the canal, and it appears to me that he is equally clear on the position of Apamia, a contemporary town erected by the same monarch, now represented, as I imagine, by the modern name Qadesiyeh. I quote his own words,—"Item Apamia, cui nomen Antiochus matris suæ imposuit, Tigris circumfunditur. Hæc dividitur Archoo."

Considering the context this specifies the position of Apamia as also between the Tigris and the Katul al Kesrawi, and environed as it were by the river; the Archous dividing or passing through the town itself. The position of Qadesiyeh answers to the description exactly by the Al Kaim branch of the Katul, cut from the Tigris a little to the north-westward, passing immediately north of the city, while the Tigris itself, sweeping round the steep promontory, is within half a mile of its walls to the south. A branch of the great Katul, at the same time passing the walls to the west, threw off a duct which led through the ramparts into the heart of the enclosed town, verifying the writer's description of the Archous, and the place in general, in every particular. It affords, indeed, almost conclusive proof of the identity of the Tornadotus with the Katul al Kesrawi, and Qadesiyeh with the Apamia of the Seleucidæ. A full description of Qadesiyeh will be found in the pages of Beng. Asiat. Soc. Journ. for April 1847, where I have

of the surrounding country, the Tigris is represented as navigable only, which, on a little consideration, is strictly true, though the causes for the stoppage of a further upward progress of vessels from the sea has been misrepresented, either wilfully or through ignorance. This is self-evident, for the Tigris at the present day, though the artificial impediments no longer exist, is still as unfavourable to navigation beyond the site assigned to Opis, from natural causes alone; for between Manjur and Qadesiyeh the geological features of the country change, from a hard sandstone region of some elevation, at once into depressed alluvial plains; the descent from one to the other being so steep as to occasion a ladder-like succession of rapids, down which the current pours at such an accelerated pace as nearly to stop a steam vessel's progress; while in the vicinity of Manjur the same vessel's rate against the stream would be three to four miles per hour.* During eight

detailed the canals and the dimensions of the town. The Nahrwan there mentioned is a modern but erroneous name in use for the Katul al Kesrawi of the books. I was so much struck with its appearance and locality as to give a large sketch of the spot with the paper alluded to, which has not appeared, for reasons I am ignorant of. The late Dr. Ross, however, has made a rough plan of the place accompanying his Journal to Opis (vol. xi. part 2, page 128, in the pages of the Royal Geographical Society's Journal), which, though minute, sufficiently well represents the features around. Since I became better acquainted with the vestiges in this country, I am enabled to pronounce Qadesiyeh, from the construction and materials of its walls, as a post-Babylonian city, and by this expression I mean the period succeeding the Babylonian decline, the Macedonian conquest, and the rise of the Parthian power. I have before described the difference between the structures of this time and those of a Babylonian era (Narrative of Journey on Survey of the Katul and Nahrwan, art. Mismai). In the former the absence of reeds between the layers of brick is the only peculiarity, and Qadesiyeh is wanting in this respect also. The Arabs ascribe its erection to Dakianus (Decianus), according to my late friend Dr. Ross. The statue found there mentioned by him, and now in the possession of General Taylor, is also corroborative of its era and pagan origin. Mahomedan writers (Abulfeda particularly) describe it as famous for the manufacture of various kinds of glass. Great quantities are certainly found there. Its present name, Abulfeda says, was accorded to it because its inhabitants were deemed peculiarly sanctified in a Mahomedan age. The term قدس from whence it is derived, certainly means "pure" and "holy," but Qadesiyeh, in reference to places, also implies "a paradise" or "pleasant spot." Cadiz, in Spain, is an example from the same root; a name given to the spot by the Arab conquerors of the west. With some confidence, I shall now restore its name of Apamia on the map.

In Rich's time it appears, from his description of a visit to Qadesiyeh (Kurdistan and Nineveh), that the spot where the image was found had the name of Nebga, and the Katul bore also the name of Ersas. The former may, perhaps, be referable to Nebo, the special divinity of Babylonia so often mentioned in Scripture, and in the latter we may probably trace the Archous of Pliny.

* My journey upwards in April 1846 proved this. The following are extracted from the Bengal Asiatic Society's Journal, April 1847, relative to the subject:—"The stream is now becoming more rapid from the increased declivity of its shingly bed, as we approach the neighbourhood of Khan Dholöiyeh; our progress, therefore, is proportionally slow (p. 306)." "At 5.45 came to for the night in exactly the same spot we spent the night on three years ago." Qadesiyeh then bore west-north-west to north-north-west. Again, "I was not sorry when the declining rays of the sun obliged us to stop, for I felt much fatigued, having been on my legs

months of the year the rocky ridge that crosses the bed of the Tigris is so shallow as to afford no depth for laden vessels, even could they oppose the current. Tracking, too, is impracticable out of the limits of the alluvium, owing to the shingle flats that extend from the shore to a great distance in the harder tracts preventing a communication by means of ropes with the vessel; nor, indeed, will the great height of the cliffs bounding the valley of the Tigris in this part permit of it. The navigation beyond Manjur is therefore never resorted to at the present day, and certainly never could have been, without the aid of great steam power.

The erection of the dams, or weirs, by the Persians must then have been for some other object, and not as a barrier, as Arrian says, to the advance of an enemy. The locality, while it admitted the sea-going vessels up to the very verge of the rocky tract, and thus offered an eligible spot for the mart of Opis, was advantageous also in a geological view to the erection of dams across the bed of the river, for retaining the Tigris at a high level throughout the year to supply the great artificial streams, the empty beds of which now traverse the province on either side to a great extent; that of the Katul al Kesrawi holding a course of 250 miles, exclusive of its lateral derivatives. In the plains bordering on the Persian rivers we can trace similar canals drawn from the main streams, step by step as it were, on their descent to the alluvial districts, and at Hawiza on the Kerkha, at Ahwaz and Shuster on the Kuran, we find raised embankments or dams of surprising magnitude and construction across the beds of the rivers, in the same way as they are said to exist at a spot called Kanatir, a little east of Qadesiyeh on the Tigris; certainly the most eligible spot for such works, owing to the confined space of the valley of the Tigris, and the height and hardness of the cliffs on either hand, with which their ends were doubtless connected. Though I have not as yet examined these, from passing the spot in spring rises of the stream, I have personally observed the strong ripplings occasioned by their presence underneath, extending in a broken but straight line of foaming water, and, with some confidence,

the whole day; indeed, nothing but the greatest perseverance and attention to the steerage of a steam vessel, through such intricate navigation as we have had to-day, could ensure her making any progress. The bed of the river is full of islands and shingle flats, and as there is, in this season of the year, but one channel of sufficient depth which receives the whole stream, it occasions, where it is thus confined, a considerable fall or rapid; some of which, notwithstanding a heavy south-east wind set in enabling us to set sail, we could scarcely surmount" (p. 307). "From Khan Dholöiyeh the bottom has changed to a hard shingle, over which the current runs, by trial, at the rate of six and a half geographical miles per hour" (p. 307).

Considering the above, the removal of the dams by Alexander to render the Tigris more navigable will be considered, I think, a work of supererogation, for I am convinced that neither Nearchus nor Onesecritus, bold as they were, could have shown a stem against the torrent that here sweeps down between the cliffs.

view these masses of masonry as the remains of the "weirs and impediments" said by Arrian to have been destroyed by Alexander the Great, as they offered obstacles to the navigation. There can be little doubt, however, but these dams were really designed for the exclusive service of the canal, which opens at Dur and Al Kaim on the east of the Tigris; the former mouth being twenty-five miles, the latter but four above the site of Kanatir, which term signifies "the bridges," a name* in general use for ruined works of this description among the ignorant Arabs now residing in their vicinity.

Arrian's misconception of the nature of these works cannot, however, be passed over in silence, for, with the laudable motive of extolling the deeds and valour of the Macedonian hero, he should not, without inquiry, have recorded him guilty of acts that savour little of the high-minded policy which generally distinguished the conquests of Alexander the Great, or of his expressed wishes for the improvement of the acquired territories, the revenues of which in this part were enormous, and principally attributable to the complete system of irrigation established by the Persians. The destruction of massive works in rivers, such as the Tigris, cannot be remedied in a day, and such an act as Alexander's must have immediately involved whole districts in one common ruin, by withdrawing from the towns on the canals the element not only necessary to the subsistence of their population, but also required for the irrigation of the adjoining country. Besides, the demolition of such dikes, instead of rendering the Tigris more navigable, would have the contrary effect of exposing the river upwards from the sea to a current of double velocity, in addition to many other evils which will readily suggest themselves, by a restrained river being suddenly let loose into its old channel, that had, perhaps, been but partially occupied only for years before. The dams, indeed, made the upward navigation more easy by checking the stream; and I have shown before that beyond Opis or Manjur, in the absence of artificial impediments, the river was not adapted for vessels at any time. The Persians had, therefore, no need to erect such works for defensive purposes, but, having designed them for hydraulic requirements, it is easily imagined they made use of them when hard pressed by an invading enemy, according to the invariable custom they had of laying waste the territory on their retreat, especially necessary, perhaps, before a victorious army, such as Alexander led. The destruction of the dams, however, while it might do injury to the Macedonian fleet, certainly redounded to the glory of the conqueror, by inflicting calamity on the country, and in this light, perhaps, Arrian has recorded it in an off-hand style, attributing the

* The Gunterah of Lynch's excellent map; the singular is thus pronounced. Ganatir, or properly Kanatir, being the plural form of the word. I intend visiting this spot in boats when the river is low at the beginning of October next.

erection of the works to a wrong motive, it may be from his own ignorance of their nature; but if it really happened as described, we must rank the act as barbarous as it was misconceived on the part of Alexander, and probably perpetrated during an orgie such as that which consigned Persepolis to the flames.

In my former narrative of the survey of the Katul I have expressed a doubt as to the existence of dams across the Tigris; but since an extended examination of the derivatives from it has been made I have become more impressed with its great magnitude, and now believe that either arm of it must have had its respective dam. Considering also the evidence of Arrian with reference to these works, I have little hesitation in according to this *great intestinal conduit* an antiquity co-eval with the Macedonian conquest of the East from the destruction of the impediments by Alexander. The subsequent recognition of the canal as the Tornadotus of Pliny, not only in name, but in the ruined Apamia of Antiochus Soter, still on its banks, places it in a highly flourishing condition in the time of the Seleucidæ; and we may infer, also, that it was equally prosperous and rich under the Persian rule prior to the Macedonian invasion, or Alexander would not have led his troops to the conquest of a barren soil. Premising this, in the words above in *italics* the classic reader may, perhaps, without much ingenuity, recognize the Katul al Kesrawi in the Phuskus* of Xenophon's Anabasis,

* I have adopted this orthography of the name of the stream recorded by Xenophon from Dr. Vincent's paper on the site of Opis (vide "Commerce of the Ancients," vol. i. p. 534), for I have not the Greek original, nor can I find the term written anywhere in the Greek character. Spelmann's translation gives Physcus as the English equivalent, and this orthography may have hitherto confused rather than cleared the *quæstio vexata* of its identity. Phuskus appears to me an appropriate name enough for such an internal conduit, as traceable in some way through Φυσκη or Φυσκος, both derivates, I think, of the word Φυω in the Greek language. I leave the decision, however, to the learned. The clever and laborious paper on Opis by the late erudite Dean of Westminster is of little use, owing to ignorance of locality at the period it was written, and the same may be said of those parts of Rennell's "Expedition of Cyrus" that treat of this subject, from the like cause. It is to be regretted, indeed, by the lovers of geographical science, that these two able men could not possibly have visited every locality they have attempted to unravel, for the masterly style in which they have handled the weapons they were provided with could not then fail of yielding great results. D'Anville, too, has arduously endeavoured to rescue the early footsteps of our race from the mist that has hidden them, but his materials unfortunately were less clear than those of his successors; and, indeed, in attempting to identify the Tornadotus of Pliny, he has in some measure led his followers astray through the miscaught sound of the Arab name Atheim by the unpractised ear of the quaint old Tavernier, who has marked it in his second voyage as the *Odoine* of Chaldea (book ii. chap. vii. 83); and, speaking of Tavernier, I may notice another error which is not of so innocent a nature, for in describing a dam across the Tigris, in page 82 of the English translation of the same book, he states it to be *twenty fathoms* steep.† Either this is an egregious error of the translator or an egregious exaggeration in the writer, though the spot he alludes to is sufficiently alarming in the descent upon rafts. The tradition he appends to it is, however, corroborative of the existence of such works in the times of the Kaianian monarchs of Persia.

† By subsequent reference to the French original, I find it is an error of translation.

though the recognition may be of little extra value. Between it and the Tigris, then occupying its old bed contiguous to Harbeh and Akbara, there lay a valuable tract of country, covered as with a net by the branches that emanated from the great artery, which, wide, rapid, and deep, was its defensive bulwark also from without in time of war.* Of such magnitude was the design, that rivers, the Atheim and the Diyaleh, were absorbed in the canal itself;† the former even being entirely arrested in the hills, to allow of the broad and deep valley it occupied, here bisecting the province, being filled up so as to carry the canal above the face of the adjoining country.‡ A conduit dispensing such copious draughts, and also impassable by an enemy except at the bridges, must have been eminently navigable in itself, and—distant from the Tigris, as it flowed in the early ages, but nine miles, which tract, by a glance at the map will be seen, was crossed by its ducts also—offered the most eligible situation for a mart such as Opis is represented to have been. The elevated rocky ridge crossing the country here would not permit vessels, as has been shown, to proceed to a closer proximity with the canal; neither could the canal, to reap the full benefit of the elevated soil, be cut so as to approach nearer to the Tigris by a single mile, where Nature has placed the insuperable bar to further navigation, without sacrificing advantages the artificial stream was specially designed for. The position of Manjur, which I claim for the site of the ancient Opis, occupies an exact central position between the dry beds of the artificial and natural streams, whether these be referred to as the Katul al Kesrawi and Shatayt of the moderns, the Tigris and Tornadotus of Pliny, or under the still older forms of Phuskus and Tigris of Xenophon. Manjur has, at present, a diameter of two miles, and, from its peculiar position, may fairly be considered as identical with that accorded to the great central *entrepôt* of Opis; Tel Hyr of the map being, as I imagine, its outwork on the river, while the whole space between, as evidenced in the present remains, formed the suburbs of the vast mart and the residence of its traders. The ducts marked on the map, now severed from the Katul by the irruption of the Tigris, once radiated around Opis in every direction, and not only irrigated its gardens and cultivations, but afforded a means of conveyance for the produce of the country from the inland towns to the emporium of the district; while, at the same time, the imports from the sea, landed at

* See Heraclius's Campaigns. He abandoned his designs upon Ctesiphon from inability to cross the Arba or Narban, the Nahrwan of the country, and the name of that portion of the Katul al Kesrawi below the Diyaleh river. Vide Narrative of Survey of Nahrwan, 1849.

† The first is the Arab name of the stream that has been so long confounded with the Phuskus. The last is the Gyndes of antiquity (Herod.), and the Tamerra and Holwan of the Arab geographers.

‡ Bandi Atheim. See Narrative of Survey of Katul and Nahrwan, 1849.

Tel Hyr, when Opis was the mart, and at Tel Aabr, perhaps, when Antiochia superseded it, were returned by many of these aqueducts to the great conduit itself, the numerous towns and villages of which had immediate communication with the caravan routes leading to Assyria, Armenia, and Persia.*

So far we have had only historical and descriptive geography to contend with; but the metrical geography of the Anabasis is worthy of much consideration, while, at the same time, I confess an inability to apply the distances quoted by Xenophon in determining the *exact* site of Opis, though the route of the "ten thousand" is sufficiently corroborative of the position I wish to assign to it at Manjur, to prevent any material objections being offered, especially when we reflect on the distressed position of the Greeks and the difficulty opposed in marching through a canal country, to the correct keeping of the itinerary of the day's performance, where innumerable streams from the Phuskus, or Katul, had to be crossed by small bridges. It will be best, therefore, to assume at once, that the twenty Parasangs recorded by Xenophon† as the distance between Sitaki, allowed to occupy a near position to the present bridge of boats at Baghdad, and Opis, represented by the mounds of Manjur, are correct; for their equivalent, or fifty geographical miles, exceeds by ten miles only the distance between the places as the crow flies,‡ and Xenophon nowhere tells us that in this part of the journey, the nearest route to Opis by the Tigris, supposing it could be done direct, was followed on the march. On the contrary, the Anabasis is silent with regard to the Tigris until Opis is reached; and I am led to infer from this that the march was conducted adjacent to the Katul, or Phuskus, as the lower country bordering on the Tigris must have been covered with fields, and numerous irrigants which all pour that way, as at present, from the Khalis, and were consequently impassable by an army.§ It was, moreover, suspected that the Persians wished to keep them from strengthening their position in the event of their determination to settle and abide events, and, therefore, we may conclude they were conducted by the more open road along the higher soil at a distance from the Tigris until the bridge of the Phuskus, where the enemy awaited them, was

* Strabo, p. 1075, and Heeren, in his Ancient Hist. vol. ii. chap. ii. p. 234, notice the commerce; the latter, though not quite correct in detail, may be read with great advantage.

† Xenophon, Anabasis ii. 34.

‡ See note to p. 235 of this narrative.

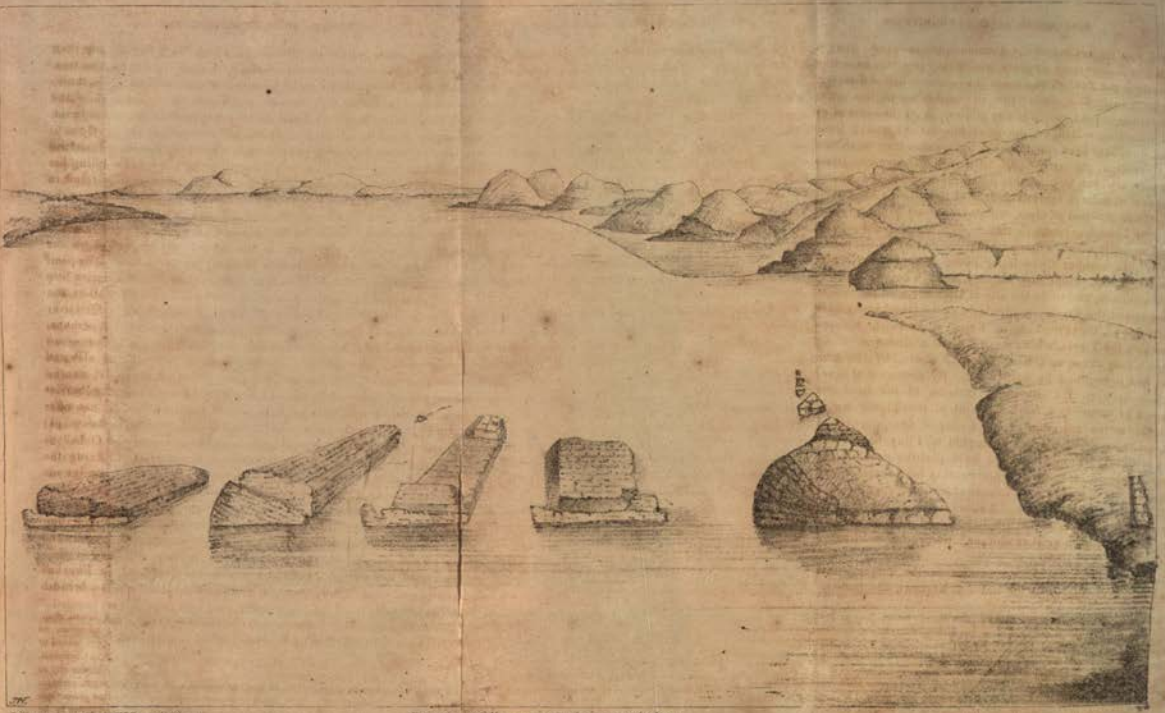
I have remarked before that the Farsakh of the Arab geographers, which I have compared with my own measurements, gives an exact quantity of two and a half geographical miles to the Farsakh; for instance, Akbara is given by Abul-feda, in the Taquim al Buldan, as ten Farsakhs from Baghdad; on this journey by my work it is twenty-five geographical miles from outside of the cities in direct distance. This makes the equivalent of the Farsakh 5,062 English yards.

§ The road to the north at present leads to the east at a distance from the Tigris.

crossed, and the anxiety of the Persians thus relieved; they were then enabled to concert those projects which they put into execution so treacherously at the Zav. The excess of route over direct distance is, therefore, fairly chargeable, under the circumstances of the retreat, to the irregularities of road, without any allowance on the score of error in the dead reckoning, which, on the more lengthened march from Opis to Cænæ, must have been considerable, harassed as they were, after passing the Phuskus, by the attendance of a vigilant enemy. Discarding his distances, however, beyond this point, there are, in the Anabasis and in other ancient writers, local evidences of importance for ascertaining the approximate position of Opis, which are not so liable to dispute; inferred from Xenophon placing this "large and populous town" on the Phuskus, while other writers are as decided as to its position on the Tigris.* In number these latter place Xenophon in a minority; but from his general perspicuity we may perhaps be permitted to give him equal credence, and to fix the site of Opis between the two streams, the Phuskus and the Tigris; particularly as the Greeks may have filed over the bridge of the Phuskus, or Katul al Kesrawi, without, perhaps, remarking the Tigris, which was really at a distance of six or seven miles, if they came, as I have specified above, by the more elevated tract less overspread by cultivation. By giving it this exact central position between the diverging streams, at the hard rocky barrier opposed by nature to a further ascent of the Tigris, we do not offer violence to the narrative of any writer of antiquity that I know of; but, on the contrary, if the Antiochia of Pliny be "in situ Opis," as may be inferred from Strabo, we have positive grounds for fixing the place or places, according whether they be identical or contiguous cities, both at Manjur in the former case, though in the latter Manjur will represent Opis alone. Antiochia must then be recognised in the adjacent mounds of Tel Dhahab, it being, as Manjur also is, "inter duo flumina, Tigrin et Tornadotum," according to Pliny, or "between both streams."

I have but one more remark to offer on the subject of the Phuskus and its full identity with the Katul al Kesrawi, and that is, the breadth

* Of those who place Opis on the Tigris, first Herod. book i. Clio, clxxxix.; Arrian, chap. vii. Cellarius, vol. ii. p. 462, has, "in hoc Chaldæorum tractu fuit Opis, emporium ad Tigrim." Lastly, Strabo, xvi. 151, and xvi. 171, where he says, "by the Tigris you ascend to Opis and Seleucia;" this last must not be confounded with the first Seleucia opposite Ctesiphon, but is the Antiochia of the son of Seleucus Nicator, who was the founder of the former city as well as of the dynasty of his name. The Beth Seluki of the Syrian MSS. is identical, perhaps, with these towns of Antiochus Soter. Xenophon is the only writer, I believe, that places Opis in any other position than on the Tigris. He fixes it on the Phuskus, without reference to the Tigris at all, Anabasis ii. 34. Pliny, though not mentioning it by name, places it distinctly between both the Tigris and Tornadotus, book vi. 334.



Lithographed in the Ht Mr General's Office
Bombay 24 January 1857.

Remains of the ancient sluices and dam.

formerly in the town of the Kalid south of Wadesiyah, now in the Tigris west of Khan Mayaki.

of "one hundred *feet*" given by Xenophon to the stream which, he adds, "had a bridge over it."* The former may be deemed an objection, considering the Katul has a width of "one hundred and thirty *yards*." In the first place, we may fairly presume that no actual measurement took place, watched as the Greeks were by the Persian army; and if so, every one is aware of the errors that can be made in surmises of this nature, setting aside the ever-varying width of artificial streams, which, in addition to being regulated at will by a succession of dams and sluices in their course, such as this has, are increased or diminished in drought, by copious falls of rain led into them from the uplands, and by the fluctuations in the trunk from whence they derive their supply. The passage of the Greeks was effected too at the latter end of autumn, when all streams are at a minimum, and, likely enough, the Phuskus, at the time of the record, was but a fourth of its maximum size. The bridge, however, is not wanting in the Katul, for it exists still in the soil of its bed at the foot of a high mound, called Tel Mahassil,† not six miles from the site of Opis at Manjur. The fact, too, of the "ten thousand" Greeks at once emerging from this spot "into the desert part of Media" is another link in the chain of evidence,‡ for I have described the Katul al Kesrawi, or the Phuskus, in the narrative of its survey, as the line of demarcation between fertility and desolation, the protected alluvium tract between the Tigris and the great canal having been, as exemplified in its ruined towns, villages, and dry water channels, a paradise for man in the oriental acceptation of the term, while all beyond being an elevated ridge of pebbles, out of reach of irrigation by canals, was ever (as it is now) an inhospitable waste, devoid of either water or vegetation. I have crossed this wilderness, and not a vestige is seen or heard of that could mark it as the former abode of our species.

I have now done with the geographical considerations of Opis, but am by no means assured that my remarks will be understood, though I have spared no pains either in the local search or in records at hand to elucidate its position. Herodotus, vague and unsatisfactory as his notices of the Tigris are, merely mentions it by name as a town on its banks;§ while Diodorus Siculus is mute altogether regarding it, though eloquent on the scene that took place there.‖ From Herodotus, however, we glean that Opis was the name of one of the Hyperborean virgins, whom the inhabitants of Delos honoured with divine rites and sacrifices.

* Anabasis, ii. 34.

† See Dr. Ross's paper on a Journey to Opis, Royal Geographical Society's Journal, vol. xi. part ii. p. 24, and my Narrative of Survey of Katul, 1849. The foundations and piers are distinct in the bed of the canal denominated erroneously Al Kabbur by the modern Arabs.

‡ Anabasis, ii. p. 35.

§ Herod. in Clio, clxxxix.

‖ Diod. Sicul. book xvii. chap. x. 11.

She was generally regarded as the daughter of Diana, herself worshipped at one time nearly over all the east, and, according to Servius, was considered in the mythology as synonymous with Luna.* In the fifth century before Christ, the Persian wars with Greece, under the generals of Darius Hystaspes, though vigorously conducted, did not end with the anticipated success, but it is not improbable that this intercourse with the Greeks, particularly with the isles of the Mediterranean, impressed the early Persians with devotional ideas in the absence of any strict religious system of their own. On their return from these expeditions, and during intervals of peace, when trade and familiar intercourse had succeeded to the former enmity, it is not unlikely they founded the mart on the banks of the Tigris for the convenience of surrounding nations, dedicating it, at the same time, to the worship of Opis, by instituting the religious forms in vogue at Delos; from whence, indeed, they may have transported the image of the frigid virgin of the north. We have the authority of Herodotus for saying that no nation in the world was so ready as the Persian to adopt foreign customs;† and the celebrated Datis, himself a Mede and a conqueror, confirms the truth of the statement in his address to the inhabitants of Delos, by publicly venerating their idols, and in offering incense on the altars of Diana and Apollo.‡ Like many other cities of Persia, Opis perhaps contained a portion of the captives of the Grecian wars, from the prevailing custom of transplanting the vanquished,§ either to colonize new cities or to serve as mercenaries in the ranks of the army, where their discipline tended to the improvement of the irregular hordes of Persia, and materially aided, not only in the subjugation of new states, but in the consolidation of the empire also, for they assisted the monarch in quelling disorders amongst his own subjects, which, we are told, were prevalent enough. The rude effigies, which we now discover here, may have been the domestic deities of such colonised families; indeed, the minute emblems, perhaps of Opis herself, and, as such, sufficiently interesting to the traveller, though of no real value. It is to be regretted, indeed, that but a superficial glance can be taken only of the ruins in this neighbourhood, for excavations would doubtless divulge many

* Melpom. xxx. and translator's note 43. Bryant's Mythology will further elucidate her sacred position in the estimation of the ancients.

† Herod. in Clio cxxxv.

‡ Herod. in Erato, xcvii. "Why, O sacred people! do you fly, thinking so injuriously of me? If I had not received particular directions from my master to this effect, I, of my own accord, would never have molested you, nor offered violence to a place in which two deities were born."

§ Herod. in Erato, cxix., Ctesias, Diod. Sicul., and the sacred records of Nehemiah and Ezra, all afford evidence of this custom. Heeren says the Persians extended the practice, Asiat. Hist. chap. xi. 340.

relics of a past age. That Opis itself was a great city there is no question, for the produce of the Indies and even China reached it from the sea by way of Gerrha and the Tigris,* from whence it was disseminated over Northern Asia and Europe, the merchants residing on the spot giving chiefly gold, drugs, grain, and precious stones in exchange, all of which were plentiful enough at the emporium of a country, whose revenue at the time of the Macedonian conquest has been computed at £58,000,000 sterling, and which, in the time of the Khalifate, remained within two millions of the same amount.†

The awful change that has taken place is not altogether attributable, I am inclined to think, to the degeneracy of the people and to the excesses of armies that have overrun the coveted lands, from Europe on one side, from the Oxus and from Arabia on the others. These inroads, doubtless, tended in a great measure to deteriorate both the soil and the people, but I suspect there have been natural and recurring causes for so great a depression as we witness in the present day. The rivers themselves, in changing their course, must have occasioned far greater distress and calamity than the excesses of an invading foe. The summit of Manjur, as we gaze around, affords a picture of wreck of this nature that could scarcely be conceived, if it were not spread at the feet of the beholder. Close to us are the dismembered walls of the old city, and many other mounds of adjacent edifices, spread like islands over the vast plain, which is as bare of vegetation as a snow tract, and smooth and glass-like as a calm sea. This appearance of the country denotes that some sudden and overwhelming mass of water must have prostrated everything in its way, while the Tigris, as it anciently flowed, is seen to have left its channel, and to have taken its present course through the most flourishing portion of the district, indeed, through the immense island which the excavation of the Katul al Kesrawi formed between itself and the Tigris, severing, in its mad career, the neck of the great artery, and spreading devastation over the whole district around. Towns, villages, and canals, men,

* Vide Commerce of the Babylonians; Heeren's Asiat. Hist. p. 234; Masudi's Maruj adh Dhahabwa-Madan-al Johir, pp. 315, 324, 328 of Sprenger's translation; and in another chapter we have a comparative rank given of the magnates of the earth, which will show the estimation the country was held in, in respect to others in ancient times, by an unprejudiced Mahomedan writer, p. 366. Masudi says, "The kings of China, of the Turks, of India, of the Zanj, and all other kings of the earth, look up to the king of the climate of Babel with great respect, for he is the first king on earth, and occupies the same position with respect to others as the moon with respect to the stars. For his country is the most *noble and most populous;* he is the richest of all sovereigns; he is most favoured by Nature, and he has a powerful and firm Government; but now (A. H. 332) this description does not at all agree," adds Masudi, "with the sovereigns of this country." What would Masudi say, could he see it now!

† Ancient Persian history, during the Khalifat of Mamun, from a document of Ahmed-ibn Mahomed ibn Abdul Hamed, employed at the time in the department of finance.

animals, and cultivation, must thus have been engulphed in a moment, but the immediate loss was doubtless small, compared with the misery and gloom that followed. The whole region for a space of 250 miles, averaging about twenty in breadth, was dependent on the conduit for water, and contained a population so dense, if we may judge from the ruins and great works traversing it in its whole extent, that no spot on the globe perhaps could excel it. Of those that were spared to witness the sad effects of the disaster, thousands, perhaps millions, had to fly to the banks of the Tigris for the immediate preservation of life, as the region at once became a desert, where before were anination and prosperity. The ruin of the Katul al Kesrawi is, indeed, the great blow the country has received. Its severity must have created universal stupor, and was doubtless followed by pestilence and famine of unmitigated rigour, owing to the marshes which accumulated annually in the absence of the dams on each spring rise of the river. The ruling authorities, whoever they were, could not hope, nor, perhaps, did they think of restoring so great a work, which could never be done, unless, indeed, it were commenced on entirely new ground; and, thus deprived of the barrier which had protected the territory from the north-east as well as nourished its internal condition, it is not surprising to find every one participating in the plunder of the capital, left almost isolated on a district of which previously it was the nucleus of prosperity and greatness. The decline of the Khalifate brought fresh disaster upon the territory, for public works, so necessary in a country traversed by such vast rivers, were either entirely suspended, or but partially undertaken, and security for property or person, amid the increasing anarchy, was no longer reckoned on. Traders then ceased their vocations, and merchants left the district for more settled places. Tottering suburbs, abandoned by their inhabitants, fell, and their materials, carried by inundations, became spread over the former fertilised districts, depreciating the value of the land,* while their inmates, crowding to the already replete asylums which others had found, added to the scarcity and disease. To say nothing of plagues and their withering effect on the population, the Tartar Eagle† at this time was hovering around, carefully watching the failing strength of his struggling victim, whose perversity and blindness permitted the fatal stoop to be made almost without an effort at defence; the consequences were, a province, which had held the capitals of successive kingdoms under different dynasties and phases, and which at various periods had either swayed

* The quantity of nitre and ammonia covering the whole of this tract is enormous. The former appears to have some affinity with the brick material of the mounds, and the latter is a peculiar feature of deserted cities, from the dead animal matter which has been mixed with the soils.

† Halaku and his hordes.

or influenced the destinies of the world, became again, and for the last time, dismembered in itself, and a prey to all who, guided by avarice or ambition, had courage enough to contend for the choice morsels that were left.* As a fief now of a distant crown, and principally tenanted by strange and needy races† of a miserable region, who wander over the fine plains in search of a bare subsistence, it still affords a quarry for the rapacious servants of a corrupt state; but its impoverishment is now nearly complete, for, like Basreh, the opulent and familiar haven of Arabian story, Baghdad, alike renowned in its pages, is fast crumbling to ruin, in default of repairs and attention to the dams. For two successive years it has now been isolated from the neighbouring country by inundations that have swept everything before them, only wanting, indeed, the protecting dike of the town to give way to raze its edifices and bazars to a level with the surrounding desert, whose tribes are ready to take advantage of such an event; and then, as the vacated seat of monarchs almost as renowned as the ancient kings of Babylon, of Nineveh, and of Susa, its career is also accomplished. Like those vast cities, its mounds will be left only for the traveller to gaze at, if he is permitted to pass through the country by the Bedouin, who may, perhaps, resume the patriarchal government of the plains, as in the beginning when "men journeyed from the east and found a resting-place in the plain of Shinar."‡

The disasters I have enumerated are the recurring evils which all tracts bordering upon great rivers are liable to, but which are avoidable in many cases by vigilance on the part of Government and its officers. The change in the channel of the Tigris in a rocky region like that immediately beyond Opis we must, however, ascribe to another phenomenon, which, though natural, is but seldom experienced in these tracts. I allude to earthquakes, and have little doubt but the misfortunes sketched above could be traced to an occurrence of this nature. Though faintly felt perhaps but once in twenty years in the alluvial

* Timur Lenk (Tamerlane) subsequently visited it, and for mere pastime destroyed more of his species than comprise the present population.

† Arab families who have collected and formed into tribes, such as the Beni Lam, Montafik, Shammar Togh, Zobeide, Effaj, Khazail, and numerous others, exclusive of the great Bedouin tribes of the Shammar, who wander uncontrolled over all Mesopotamia. At a rough computation the soil would subsist a population perhaps five hundred times greater than it has at present. In former times, to have constructed the canals whose remnants we see, every square yard of ground would seem to have contained an inhabitant, for myriads of the human race would be required to perfect the works which are left, notwithstanding flood after flood has diminished their numbers and extent during the ages that have elapsed since their decay. It is a wonder, indeed, that anything should remain, considering the destruction annually going on from these inundations, to confirm the accounts we have of the original numbers of our race and the magnitude of the early abodes in which they first socially established themselves.

‡ Genesis xi. 2.

district of Babylonia, we know these shocks are constant and alarming in Syria, Asia Minor, and, to some extent, on the west of Persia, countries immediately enclosing the district of Mesopotamia, the northern half of which is, indeed, only a connected rocky flange, thrown off, as it were, from the base of the several ranges having a gradual descent terminating in the deep hollow of the Persian Gulf. In earthquakes, such as those which have at various times prostrated Antioch and Aleppo in Syria, the shocks have doubtless been felt in a more or less degree over Northern Mesopotamia, and in my experience some milder concussions have extended to Baghdad and Southern Mesopotamia. During the Khalif Matawakkel's reign, A. D. 850, we have it recorded that for many days the waters of the Tigris, to the great astonishment of the inhabitants of Baghdad, first became yellow, then suddenly changed to the hue of blood; afterwards traced as the effect of an earthquake that had destroyed many towns in Georgia and Persia, and opened new sources for rivers, besides changing the courses of many existing streams.* A visitation similar to this, if not the occurrence of the period, must, I presume, have lopped off a shoulder of the tertiary tract east of Qadesiyeh on the Tigris, in the neighbourhood of the great dams, perhaps, adjacent to the Sidd Nimrud, which, giving way also on the left bank of the river at the same time, admitted the Tigris, perhaps confined at the juncture, in a vast mass into the plains east of its old course, severing at the moment the Katul al Kesrawi, or the Phuskus, from its sources at Al Kaim and Dur. The deep and narrow watercourses, marked on the map in the immediate tract between the new and the old beds, will show that the river meandered about for some time previous to settling in its present channel, thus offering obstacles to the permanency of any plans for its control, which might have been contemplated, from the extensive ravages it was daily committing, by being broken in a multitude of streams. The wreck, whenever it happened, must have been complete. The Katul has ceased to be a running stream, perhaps, for the last ten centuries, though its continuation, the Nahrwan, by the damming up of the Diyaleh and by other extensive repairs, may have had its existence prolonged to a comparatively recent period. To conclude this subject, I cannot refrain from quoting Masudi, a work not generally read, on the irrup-

* D'Herbelot's Biblioth. Orient., "Matawakkel." A similar change in the colour of the Tigris took place this year (1850) on the 9th August, and lasted, to the astonishment of all, for three days. The river, too, which had been falling as usual in these months, gradually became stationary, and, when the water resumed its general dirty appearance, the river fell with a double velocity for two following days. I have no doubt myself but some earthquake has occurred in the hills near the source of the stream, for a fall of rain is unusual in these months, and to create such a change must have been excessive.

tions of the Tigris in his time, A. H. 332. Sprenger's translation, pp. 253—255.

After speaking of the Euphrates he says:—"In the same way the Tigris has changed its course," alluding to the districts to the south; and afterwards, "The inhabitants of these places (Esh Sherki and Al Kab, villages of Katirbil, at present not identified, though close to Baghdad) have had a lawsuit with those on the eastern side (of the Tigris) on the subject of land recovered or lost by change of the bed, who are in possession of Rakkah-esh-Shemasiyeh in the reign of Al Moktader, &c. &c. What well-informed men have deposed at this occasion, and what we have stated, are well-known facts at Baghdad. If the water changes its course in about thirty years, the seventh part of a mile, it will make nearly one mile in two hundred years; and if the water of a river retires from its original limit four hundred cubits, the place will be waste. Through these causes places are rendered uncultivated; and, if the water finds a declivity, or descent, it widens, by its course and rapidity, the bed, as it carries the ground away to an immense distance; and, wherever it finds a wide and low place, it fills it and forms lakes, marshes, and lagunas. By these means places which have been cultivated become deserts, and those which were without cultivation become cultivated. Every body of common sense will understand and appreciate what we have said."

He continues:—"All historians, who possess just ideas respecting the history of the world and its kings, know that in the year in which the prophet of God sent messengers to the Kesra,* and this was the seventh year after his flight from Mecca to Medineh, the Euphrates and Tigris were so much swelled that they never had been so before; the water made immense breaches and holes, which were greater than the canals; and, as the canals could not hold the water, *the dams and mounds gave way*, and the water filled the lower country. The Persian king, Abrawiz (Khusru Parviz), endeavoured to confine the waters again, repair the dams, and to open the trenches, but he was unable to control the river; it took its course towards the place where, in our time, are the marshes. The cultivations and fields were submerged, and whole districts were changed into marshes which are there at present, his exertions to stop it being inefficient. The Persians were soon afterwards occupied with the Arabic wars; the water broke through its limits, and nobody could turn his mind to the reparation of the dams, so the marshes became wider and more extensive.

"The whole extent of the marshes which the water occupies at present, A. H. 332, is above fifty Farsakhs (125 miles about) long and as

* The Sassanian kings of Persia.

many broad.* In the centre is a round place in which the ground rises; this is a city covered with water, and when the water is clear one may see at the bottom the ruins of buildings; some stones are still standing in their places, whilst others have fallen down. One may still trace the course of the buildings."

From this account of Masudi, the date of the irruption that destroyed the Katul, and changed the course of the Tigris to its present position, might be assigned to the era of Khusru Parviz. There is scarcely any doubt, however, but that it was in operation as a canal in the time of Matassem, the eighth Khalif of the Abbassin, or he would not have selected its district for his new capital, erected at Samara, contiguous to the line of its course, and protected by the extended arms of the conduit, from whence also it is presumed the restored city derived its water, as did the more ancient Sumere, which existed there in Julian's day. It is not, however, unlikely, that the severed portions, on the elevated soil around, continued to hold water by being dammed up, where we see the arms unite in the map, and where dams still exist in the bed. Viewed as deep trenches alone, they were then still able to maintain a large population, and to irrigate as well the tract lying between them and the Tigris.

From Manjur we traversed the country in a north-east direction to fix the arms of the canals that have been severed by the river from the Katul, and which I have noted in my journey of last year.* In thirty-five minutes we came on a long duct called the Ejdeh, having several others similar to it, all derived originally from the Katul al Kesrawi, now separated from them by the Tigris. They are noted in the Appendix,† and the lines they pursued over the country are also shown. Ruins of brick, pottery, and other remains are strewed on every hand, showing that the space contained between the old bed of the Tigris to the west and the Katul al Kesrawi, now close on the other side of the Tigris to the east, was a densely populated region. The next day was devoted also to the examination of this canal, and to following up the canal Al Ejdeh,‡ which was the main branch or line to the east of Opis, and in determining the connection between them and the Katul conduit. To continue describing these, offering as they do so much sameness in detail, would be tedious in the extreme. With the exception, therefore, of recording that I was enabled to fix the site of another large town§ on the left bank of the old bed of the Tigris on my way to Baghdad, I shall conclude with a general reference to the

* The Maruj-adh Dhahabwa Madan al Johir of Masudi says, during the Khalifat of Moawiyeh the State derived a revenue of fifteen millions of Dihrevis (£3,000,000) from the reeds alone, which grew spontaneously in the marshes, p. 255.

† See Appendix Z. ‡ Appendix *a, a, b, c, d, f.* § Appendix, under *e.*

map, and to the Appendix, where the observations made at the several positions will be found, and on which the former was constructed. The dry beds of the artificial aqueducts excavated in remote antiquity, in the map, are represented by well-defined black lines drawn over the face of the country where they are still traceable; and the deserted channel of the Tigris and minor arms, which it must have occupied previous to its settling in its present position, are shown by shaded curvatures, such as those pertaining to natural streams; while long-decayed towns are enclosed in a broken red line. A knowledge of this in considering the site of Opis will be necessary to prevent confusion; the bearing in mind at the same time, that the recent or new course the Tigris has followed is marked blue, as also are the canals at present dispensing water, will aid materially in the inquiry, for these must be regarded as non-existing when the brave "ten thousand" and their successors in arms traversed this region, the history of which, whether derived from sacred or profane writers, is in some measure elucidated by the research of individuals, however limited in knowledge or in qualifications. This indeed is my apology for having essayed the identification of the lost Opis, a city which has engaged the attention of our best geographers, and well deserving of a place on our maps, for we may regard it as the primitive "assembly house" of nations then far distant from each other, but connected, in very early times, by a commerce that, alike honourable to all, spread civilisation over the face of the globe, the blessings of which England is now enjoying, and which she is endeavouring in her turn to dispense by establishing an "Opis" in the west, which, let us hope, in 1851, unlike its prototype on the banks of the Tigris, will prove the foundation of an intercourse conducive to universal harmony and peace. War and its ravages are but too well depicted on the face of the country around this early emporium of our race; and, with such examples before us, who can blame the vindication of peace, or the advocates of an enlightened union between communities of men? Let the dweller on the Thames, however humble or hard be his lot in life, turn aside from the contemplation of his distresses but for a minute, and, ere he turns his thoughts from home, let him take a glance at the smoking cottages—hovels, if you will—and smiling fields around him, and then direct his eye to the banks of these classic streams, where a howling waste has succeeded a picture similar to the landscape before him. Before the ruin was accomplished, he will find, if he traces its history, that far greater miseries than his own were endured by its people, and that the horrors of war—which, under a long term of peace, he has no idea of—led to the withering aspect which the features of the once smiling landscape at present bear. The lovers of war and the agitators of the people should also contemplate

the scenes which are of every-day occurrence in the land I now write in, overrun as it is by the enemy of his fellow-man. The predatory Arab spares not the most needy,—compared to whom, the denizen of a workhouse and the Irish starveling may be termed happy,—but for ever prowls in search of booty of some sort, and to whom the wretched clothing of the miserable wanderers around becomes an object of cupidity and plunder. Once witness of this anarchy and distress, the contemners of order and peace would not only bless the laws that protect them, but would appreciate the industry of all classes of men who are laudably striving to uphold the high position England has attained in the scale of nations; while, at the same time, the Government and sympathizing community are doing everything to alleviate want,—a privation as unheeded in this country as it is prominent.

(Signed) FELIX JONES.

Baghdad, 15th September 1850.

APPENDICES A TO Z AND *a* TO *f*,

Showing the observations and bearings made on the journey described in foregoing paper. The latter, when taken by the prismatic compass, have been reduced to the true pole by daily observations for variation. The latitudes were observed by an excellent sextant of Troughton's, graduated to ten seconds, used with an artificial horizon; and the angles determined in azimuth and horizontal arc by a couple of theodolites, one of ten inches, where great nicety was required; the other of four inches' radius, which was carried throughout the journey.

APPENDIX A, referred to at p. 225.

Bearings true.

Shrines at Kathemein	117°30′
Tomb of Zobeide	136·30
A grave on the canal called Abu Khandal (three quarters of a mile distant)	158·30
Akr-Kuf, Babylonian (pile, portion of Median Wall ?)	241·30
Direction of canal to south-east	148·00

APPENDIX B, referred to at p. 225.

Ahweyneh.

Bearings true.

Shrines at Kathemein	124°30′
Akr-Kuf	233·30

APPENDIX C, referred to at p. 228.

Serakha Ruin.

Shrines at Kathemein	131°30′
Akr-Kuf	229·00

APPENDIX D, referred to at p. 228.

Suk (the lower one).

Shrines at Kathemein	136°00′
Akr-Kuf	224·00

APPENDIX E, referred to at p. 228.

Branch canal from the *Serakha.*

Shrines at Kathemein	140°00′
Akr-Kuf	206·30
Road back	112·00

APPENDIX F, referred to at p. 229.

Hummamat.

Shrines at Kathemein	139°00′
Akr-Kuf	198·00
Tel Abdar (ancient), about a mile distant	245·00

APPENDIX G, referred to at p. 229.

The *Upper Suk.*

Shrines at Kathemein	151°00′
Akr-Kuf	198·45
Khan Tarmiyeh	10·00

APPENDIX H, referred to at pp. 229 and 231.

Tel Goosh.

Shrines at Kathemein	166°40′
Akr-Kuf	205·40
Khan Tarmiyeh	355·00

APPENDIX I, referred to at p. 231.

Khan Tarmiyeh, or *Suadiyeh.*

Sun's mer. alt. 113° 22′ 11″ gave the latitude 33° 37′ 02″ north, Nitocris' flags displayed in the Jedideh reach (bore true)	70°00′
An ancient mound called Tel-Kir	211·00

APPENDIX J, referred to at p. 234.

On the high mounds of the *Nathriyat* canal by theodolite set 360° to the minaret in Sumeycheh village, a tomb called Ibrahim being exactly in line with it.

Deserted village east of Sumeycheh	8°56′
Mahomed Abul Husseyn tomb	16·24
Kef Ali	37·21
Sheikh Jemeel, a tomb near the Tigris	56·22
Extremes of the village Suadiyeh on the east bank of the Tigris (indifferent) ..... 57° 35′ to	62·00
Mounds in the Abu Sakher ruins (one mile distant)	117·00
Tel Taaseh	138·10
Khan Tarmiyeh doorway	173·47
Direction of the Nathriyat canal for mill, then turning to the east-south-east	168·00
Sun's altitude centre for azimuth	12·37
Angle to sun's centre for do.	271·02
Theodolite magnetic, showing north	354·00
Direction of canal coming from	336·00
Sun's amplitude at set, by compass	274·00
Sun's amplitude at set, by theodolite	279·36
Making the variation of the road by compass ... (west)	3·12
and by the theodolite needle ..... (west)	243·30
The mound of Abu Sakher by a mer. altitude of the sun on the following day, March 23rd, 1850 (being in latitude 33° 42′ 4″ north) observed as	113·58·10

APPENDIX K, referred to at p. 239.

Kef Ali, tomb in Akbara Sheikh Jemeel, a tomb near the west bank of the Tigris, having in one with it the date-groves of Suadiyeh	63°30′
Mahomed Abul Husseyn, tomb	346·30
Minaret in Sumeycheh village	326·30
Direction of the bed of the Shatayt for one mile and a half	11·00
Extremes of Mansuriyeh groves (*c*) ..... 80° to	100·00
The direction of the Shatayt bed to south	149·00
Waneh or Awaneh, ruin of	152·30
Station of last night on the Nathriyat	208·00
Sheikh Ibrahim, tomb	255·00

APPENDIX L, referred to at p. 243.

Station on the plain one mile true east of Sumeycheh minaret; the ϕ mer. alt. of *α* Canis Majoris was observed as 79° 18′ 5″ on the night of 23rd March, making the latitude of the village mosque (north) 33° 50′ 48″

APPENDIX M, referred to at p. 243.

True bearings observed from the minaret of *Sumeycheh*.

Minaret of Beled village	336·15′
Centre of straggling date-grove NE. of it	343·00
Tomb of Syed Mahomed	346·00
Date-groves of Sindiyeh, just discernible	76·00
Mahomed ab'l Husseyn tomb	114·00
Kef Ali tomb	146·30
Nathriyat and Sheikh Ibrahim tomb in line	172·00
My station on the Katul, or Nahrwan, where it is broken by the Tigris, and whose latitude is ascertained by means of many observations as 34° 00′ 37″; its chronometrical difference of longitude west of Baghdad being well fixed in three trials as 3′ 45″	28·00

The latitude of Sumeycheh minaret was found also by sun's mer. alt. on 24th March, as 33° 50′ 45″ from ϕ 114° 29′ 25″ ⊙ alt.

APPENDIX N, referred to at p. 246.

Station on *Hyr*, tumulus.

Sumeycheh minaret	192·30′
Syed Mahomed tomb	336·15

APPENDIX O, referred to at p. 248.

On the *tomb of Syed Mahomed*.

Minaret of Beled village	295·00′
Syed Saadi, a tomb in the ruins of Harbeh	262·00
Syed Gharyb, a tomb on the W. bank of the Dijeil	196·00
Khan Mizrakji, on the east bank of the Tigris	205·00
Malwiyeh, spiral tower	307·30
Khan Dholöiyeh	28·00
Nitocris in the bight of Tigris leading to opening of Shatayt	77·30
Sumeycheh minaret	166·00
A high mound to the ESE. (afterwards found to be Tel Manjur)	132·30

APPENDIX P, referred to at p. 249.

A branch of the *Katul al Kesrawi*, emanating from near the dam found in the bed of the Al Kaim branch of the old conduit. This station is a centre spot from which other canals diverge as follows, Nos. 1, 2, 3, 4, 5.

Syed Mahomed		274·00′
Sumeycheh minaret	(or due south)	180·00
No. 1, branch from which the others were supplied; its connecting arm being on the opposite bank of the present Tigris (extends to cliffs of the river).		31·30
No. 2, a canal 15 yards broad	ditto	320·00
No. 3, ditto	ditto	255·00
No. 4, ditto	ditto	186·30
No. 5, ditto	ditto (curving)	113·30
Khan Dholöiyeh		344·30
Nitocris' flags		296·00

N.B.—The mouth of the Shatayt half way between this position and the place where the Nitocris is at anchor.

APPENDIX Q, referred to at p. 250.

Tel Aabr on the east bank of the ancient bed of the Tigris.

Syed Mahomed tomb	23·30′
Beled minaret	341·00
Syed Saadi tomb in Harbeh	305·30
Sumeycheh minaret	152·30
Syed Gharyb tomb	186·30

APPENDIX R, referred to at p. 251.

Tomb of *Syed Saadi* in the ruins of Harbeh.

Malwiyeh at Samara	318·00′
Khan Mizrakji	330·00
Minaret of Harbeh, ruined	291·30
Minaret of the modern Beled	41·30
Khan Dholöiyeh	51·30
Syed Mahomed tomb	81·30

APPENDIX S, referred to at p. 256.

Fallen minaret in the ruins of *Harbeh*.

Malwiyeh	319·00′
Khan Mizrakji	336·00
Beled minaret	57·30
Syed Mahomed tomb	86·30
Syed Saadi tomb	111·00
Syed Mahássin tomb, on the other side of the Dijeil	207·00

APPENDIX T, referred to at p. 257.

Near the mounds of *Jibbareh*, just above the dry canal of Al Alth.

Khan Mizrakji	18°00′
Harbeh	138·00
Beled minaret	112·30

APPENDIX U, referred to at p. 260 and 266.

The bend of the *Dijeil* canal, where the ancient Izhaki conduit is severed by it and where the north-east extreme of the Chali joins the west bank of the latter. Here, too, on the eastern side of the Dijeil the Al Alth and Mastansir ducts are led off, and Ferhatiyeh, another modern duct derived from the west bank of the Dijeil, is seen running parallel with the east bank of the old Izhaki whose direction is quite straight in a line of 163°00′.

Khan Mizrakji	38°00′
Direction of the Mastansir (irregular)	75·00
Syed Saadi tomb	123·00
Abul Mahassan tomb	155·00
Malwiyeh	325·00
Al Kaim tower	309·30
Direction of the Chali or Sidd Nimrud	206·00

APPENDIX V, referred to at p. 262.

Opening in the rampart *Chali Batikh*, leading to the valley which formerly received the water from its reservoir.

Malwiyeh tower		339°00′
The continuation of the ridge on the opposite side		209·30
Direction of canals on either side of the valley.	1st	98·00
	2nd	170·00

APPENDIX W, referred to at p. 272.

At the position of a bridge across a canal from the *Katul al Kesrawi* which watered the town north of Tel Aabr.

Direction of the canal	145°00′
Tel Aabr	179·00
Syed Mahomed	36·00
Syed Saadi	290·00

APPENDIX X, referred to at p. 272.

Tel Dhahab, "gold mound."

Syed Mahomed	350°00′
Syed Saadi	290·00
Tel Aabr	263·00

APPENDIX Y, referred to at p. 272.

The high mound of *Manjur*.

Syed Mahomed	308°30′
Syed Saadi	286·30
Flag on the Nahrwan or Katul al Kesrawi	46·30
Another mound, a portion of the wall of the old city	76·30
Sumeycheh minaret	191·00
Another mound, part of the wall of the old city	26·00

And at this mound were observed the following :—

Flag on Nahrwan	55·00
Syed Mahomed	286·15

And the mound noted as 76° 30′ from the high mound of Manjur, nearly in line Abu'l Hassan.

On another portion of the wall of the city of *Manjur* :—

Manjur, or high mound	186°30′
Syed Mahomed	284·00

In the valley formed by the *Atheim* in a very early period, just west of Manjur mounds.

Mound on which the above bearings were taken	39°00′
Maujur	166·30

On another mound forming a portion of the old wall of the city of *Manjur* :—

Nahrwan flag	48°30′
Mound of yesterday	325·00
Manjur	221·00
Mound taken from Manjur	193·00

APPENDIX Z, referred to at p. 290.

Various stations on the *Ejdah* and neighbouring canals; the former a great arm which emanated from the Katul al Kesrawi about a mile west of the valley of the Atheim.

Nahrwan flag	57°00′
Direction of canal to where severed by the Tigris	336·30
Ditto in its course to Ejdah; high mound of ruins.	160·00
Syed Mahomed	270·00

On canal next east of the *Ejdah* duct, 50 yards broad; its course 325° and 139° opposite.

On second canal east of *Ejdah*.

Syed Mahomed	266° 30′

Mouth of the Atheim river	330°00′
Nahrwan flag	58·30
Direction of canal to SE.	170·00

On the *Ejdah* canal where it is severed from the Katul by the Tigris; its breadth about 60 yards.

Nahrwan flag	73°00′
Syed Mahomed	264·00
Dholöiyeh Khan	303·00
End of Hawi	81·00
Direction to canal to station on it of yesterday	160·00

On another large mound of ruins for which the guide has no name, one mile (?) east of Manjur or Opis.

Nahrwan flag	36°30′
Syed Mahomed	288·30
Another mound of ruins distant half a mile	1·00
Another large heap of mounds distant three quarters of a mile	189·00
Al Ejdah canal mounds	136·15

On the mounds of *Al Ejdah* canal, where an ancient city of great extent formerly stood.

Direction of Al Ejdah canal from this to the Tigris	350°00′
Direction from this position	148·00
Nahrwan flag	11·00
Syed Mahomed	296·00
Minaret of Sumeycheh	220·00
Our position this evening on the Tigris	56·00

APPENDIX *a*, referred to at p. 290.

On canal to east of *Ejdah*. Tigris cliff half a mile north of position, and the Katul formerly ran where the Tigris now flows.

Flag on Nahrwan	329°00′
Direction of the canal, back and on	337·00 & 158·00
Sumeycheh minaret	225·00
Syed Mahomed	281 00

Another long canal running here parallel to this, about half a mile to the south.

APPENDIX *a*, referred to at p. 290.

On the *canal* specified in last line.

Sumeycheh minaret	230°30′
Nahrwan flag	335·00

Direction back and on..... 339·00 & 163·00′
Extensive ruins a quarter of a mile south-west of this.

APPENDIX *b*, referred to at p. 290.

On a *canal* which the guide calls *Aghab*, branch of Katul.

Sindiyeh village..... 45·00′
Extremes of Saadiyeh groves (*c*) ..... 87·00 to 124·00
Some high mounds with a dry canal, formerly led from Katul to this spot ..... 101·00
Sheikh Jemyl, the canal curving to the right of the tomb. 200·00
Sumeycheh minaret..... 273·00

APPENDIX *c*, referred to at p. 290.

At *Sheikh Jemyl*, a modern tomb.

Kef Ali in the ruins of Akbara..... 243·00′
Sumeycheh minaret..... 291·00
Sindiyeh ..... 38·00
Extremes of Saadiyeh (*c*) ..... 51·00 to 67·00
Extremes of Mansuriyeh (*c*) ..... 129·00 to 152·00

APPENDIX *d*, referred to at p. 290.

At the *Tarmiyeh* canals. Old ducts now seen to correspond with those on the opposite side of the Tigris; branches or derivatives of the great Katul called Tarmiyeh, because a modern cut leads the Tigris when high into the Tarmiyeh lake. Another name is Chil.

Sindiyeh and islet of Mansuriyeh in one ..... 25·00′
Also the Saadiyeh (west end) grove ..... 28·00
Sheikh Jemyl, modern tomb ..... 339·00
Kef Ali ....
Direction of these ducts..... ..... 263·00
Another running in the same direction a quarter of a mile north.

APPENDIX *e*, referred to at p. 290.

The ruined city of *Al Busara* on the left bank of the old bed of the Tigris; a large town, having a citadel and outer rampart surrounding it. Bed of the river deep and well marked, full of grass and cultivations, the produce of the spring rains. This city is mentioned in the Kitab al Akalim. Beyond this notice I can find no clue to its history. Ruined material on every hand.

Kef Ali ..... 321·20′
Sheikh Jemyl, with the curve of the old bed of the Tigris and boundary of the ruined city in one ..... 13·30

Khan Tarmiyeh	202·00′
Extremes of Howeysh and Dokhleh (*c*)	121·00 to 101·38
Small clump, Howeyreh	88·30
Extremes of Mansuriyeh (*c*)	51·00 to 36·00

APPENDIX *f*, referred to at p. 290.

At a centre spot where ancient canals diverge, called the *Medoad*, also led originally from the Katul al Kesrawi.

Direction of its source	24·00′
Khan Jedideh	120·00
Extremes of Howeysh trees (*c*)	78·00 to 69·00
Howeyreh clump	63·00
Tarmiyeh Khan	219·00

Kathemein Domes, due south, indistinct.

(Signed) FELIX JONES.

MEMOIR

ON THE

PROVINCE OF BAGHDAD;

ACCOMPANIED BY

A GROUND-PLAN OF THE ENCEINTE OF BAGHDAD.

BY

COMMANDER JAMES FELIX JONES, I. N.

Submitted to Government on the 19th April 1855.

PROVINCE OF BAGHDAD.

Brief Observations, forming an Appendix to the Map of Baghdad, by Felix Jones, Commander Indian Navy, and Surveyor in Mesopotamia.

The present Map represents the ground-plan of a city once as celebrated as any in the universe. A hopeless decay during six centuries, in which it has been contended for and held by many conquerors, has yet failed in ruining it altogether, though its attenuated state at the present day serves to show the original vigour of its constitution, when founded by Al Mansur, eleven centuries ago. For five hundred years it was the abode of the Abbasside Khalifs, and, with more or less interruption, the seat of empire of the world.

To the antiquarian and general scholar the site possesses various attractions; for, degraded as it is, Baghdad is still the representative of those great capitals which flourished in antiquity and which are intimately blended with sacred and profane writings, as well as connected with the early spread of Christianity itself. After the total destruction of Seleucia and Ctesiphon, where the episcopal chairs had been established by the first missionary fathers, the eastern metropolitans have been invested here, and the title of Bishop of Babylon still pertains to the archiepiscopal see, at present more respected in the title than honoured in anything else; and though the Khalif Al Mansur is named by all writers as the founder of Baghdad, there is little doubt, from existing remains, but that a Babylonian city occupied the spot long before the establishment of the Khalifate on the soil.

I shall not stop to dwell on its history, nor detail the motives of Mansur for fixing on a new locality to establish his "*House.*" Such, indeed was the custom among barbarian conquerors from antiquity to the present time. It appears that the western side of the Tigris was the chosen site for the original Baghdad; the larger portion of the town now to the east of the river having risen from a military position, and enlarged afterwards to suit the growing extent of the population, as individual families settled from nomade life, or as immigrants from

more distant places. The new city was added to also by the remnants still lingering around the ruins of Ctesiphon and Seleucia; and, with captives and others, either brought or invited from lands over which the early Khalifs extended their arms, the city and tracts around soon became a highly populated district. All writers enlarge upon the masses that comprised its population in its more prosperous periods, though there is great discrepancy in enumeration. At the funeral of Ibn Hanbal,* a much-venerated Mahomedan sage, who died at Baghdad in A. D. 855, we are told eight hundred thousand men and sixty thousand women formed a procession to his grave, and that near twenty thousand infidels became converts to Mahomedanism on the day of his death. With every allowance for exaggeration, both in respect to this statement, and to the number of three hundred and sixty baths mentioned as being requisite to the purifications of its inhabitants by other authors,† we must admit the fact of its multitudes in a great degree; especially as the deserted tracts, covered as they are with the broken remains of edifices and canals, speak in favour of its truth. The myriads that were slain too after the sack of Baghdad by Halaku in A. D. 1257, and by Timour-lenk (Tamerlane) in A. D. 1400, incredible as the accounts are, show how prolific the numbers were; the former, by the smallest accounts, having massacred in cold blood three hundred thousand of the defenders of the city; while the latter erected beyond the gates, as a trophy of his prowess, a couple of pyramids which were constructed of the heads of ninety thousand of its most influential people. At the present time the census is about sixty thousand, having in the last thirty years dwindled from one hundred thousand to this amount from various causes, the chief of which being a great plague and inundation in 1831, and minor ones in the forms of mal-administration by successive rapacious governors.

Designed in A. H. 145,‡ the city soon rose to magnificence, and perhaps attained to its greatest splendour during the reigns of Haroun-ar-Rashid and his immediate successors. The wealth of the world appears indeed at one time to have been centred on this spot; manufactures, commerce, sciences, arts, all flourished under the fostering care of many of the Khalifs, particularly under that of Al Mamun, in whose reign the first great arc of the meridian was measured in Mesopotamia. Colleges and schools were founded and endowed, and the liberal and abstruse sciences were cultivated with enthusiasm and success. Its artisans were celebrated also in the age they lived in; so much so, that an ingenious Clepsydra, or water-clock, originally devised in Greece

* Refer to the annals of Abulfeda, and D'Herbelot's History of the Mahomedans.

† See the Tarikhi Baghdad, and a work called the Kharidet al Ajaib on this subject.

‡ A. D. 762.

or Rome,* issued from its workshops, and was deemed, as we have read in the history of some one of the Khalifs. a present worthy of the acceptance of a king of France. The splendour of the court at Bhagdad in those days excelled anything that was known. It is true it was a display of barbaric magnificence, but the usages of the age must be considered in contemplating it. In the annals of Abulfeda we are treated with the programme of the pomp exhibited in the court of the Khalif Al Moktadar on the reception of an ambassador from Greece. The army was drawn up to the number of one hundred and sixty thousand men. The Khalif himself, surrounded by his chief ministers and favourite slaves covered with gold and jewels, resembled a planet amid a galaxy of stars. Eunuchs, black and white, with inferior officers to the amount of eight thousand, served as a foil to these gems. Silk and gold-embroidered tapestry, numbering thirty-eight thousand pieces, ornamented the palace walls, and on a curious tree of gold and silver were perched a variety of birds whose movements and notes were regulated by machinery. Twenty-two thousand carpets covered the floors, and a variety of vessels, each splendidly decorated, floated on the broad stream of the Tigris before the windows of the palace, while a hundred lions in charge of their keepers lent a contrast to the glittering scene.†

Its institutions boasted of authors, physicians, and philosophers; and in their libraries were stored a vast number of books, all manuscripts, for printing was not then invented. We may judge of their amount, when it is related that a doctor declined the invitation of a Sultan of Bokhara, because his books alone would have required four hundred camels for their transport.

Money too must have been alike plentiful in its treasuries. The founder of Baghdad, Al Mansur, is reported to have left at his death about thirty millions sterling. His son expended three millions in a single pilgrimage to Mecca; and we read of a Vizier having founded a College at the charge of two hundred thousand pieces of gold, endowing it at the same time with an annual sum equivalent to seven thousand pounds. What, then, must have been the revenue which admitted of such a drain on the coffers of Baghdad? We learn from a financial document, drawn up by one Ahmed ibn Mahomed during the reign of the Khalif Al Mamun, that from the various tributes received in specie and kind, it amounted to about £56,000,000 sterling. As a dependency of Turkey in 1854 its revenue is under £350,000.

Nothing strikes more forcibly than comparisons, and here is one

* I have heard this questioned, and the honour of the invention accorded to Baghdad.

† The glowing descriptions in the Arabian Nights of the splendour of the court and other scenes in Baghdad are familiar to us all. They are doubtless much exaggerated, but still impress us with an idea of display in accordance with the wealth of its people.

exhibiting a lamentable contrast between splendour and poverty. An abundance of riches, acquired by the strong arm and abstemious habits of the early Arab conquerors, soon led to luxury and effeminacy. The hand of Harun-ar-Rashid, which subscribed the letter to the Emperor Nicephorus, calling him a "Roman dog," was capable of action in support of the insulting speech, but the inflated language of the later Khalifs derived no weight from the listless character of their lives. Isolated from their subjects by pretended sanctity of person, they passed their days in the seclusion of the Harem, while factions were struggling in the city, abetted by traitors beyond the walls and rebellions in the provinces at a distance. Thus the Seljuk princes diminished the authority of the Khalifs, and paved the way for the advance of the Tartar hordes under Halaku at a subsequent date. His victory sealed the fate of Baghdad and the Khalifate in A. H. 656;* and Al Mostassem, the last of the long dynasty of the Abbassides, he whose vanity led him to conceal himself from the gaze of his subjects by a veil, was dragged through the city, sewn up in a felt, at the heels of the enemy's horse. It became subsequently the prey of various parties until Timour-lenk made his famous descents upon it in A. H. 795 and 803,† on both which occasions he took it, but restored it (after the massacre of vast numbers) to Sultan Ahmed, who was, however, chased from it again by Miram Shah the son of Timour-lenk. Then the factions, or tribes denominated Ak Koyunlu and Kara Koyunlu, or "White and Black Sheep," held it successively until A. H. 914,‡ when the city was seized by Shah Ismail Sufi, the Persian king; but so renowned a spot could not be left without contention, and we accordingly find both Persians and Turks struggling for it with various successes in many bloody wars of the day. The Turkish Sultan, Suliman I., at length acquired possession, in A. H. 941 (A. D. 1534), from the Persians, but it was recovered by them in the reign of Shah Abbas the Great, and remained a dependency of that kingdom until Murad IV. besieged it in person, and made himself master of it in A. D. 1638. The Turks have held Baghdad since that time, though Nadir Shah attempted to capture it in the first part of the last, as did Mahomed Ali Mirza, Prince of Kermanshah, in the beginning of the present century. No wonder, then, if we see only the skeleton of its former self, especially when we consider that inward corruption has materially aided in the destruction of the carcase, and, notwithstanding its whitening bones, there are yet vigilant hawks abroad.

In the pages of Niebhur, Buckingham, and Frazer, the curious will find ample descriptions of its condition, both political and social, in the past and present centuries. I shall therefore confine myself to the fact of its bearing now but a threadbare resemblance to the impoverished

* A. D. 1257. † A. D. 1392 and 1400. ‡ A. D. 1508.

pictures they have drawn; for a general but certain deterioration since their day is apparent in the city, as well as in the provinces of Irak, of which it is the capital. By some singular fatuity it has received and still holds the title of دارالسلام Dar-as-sellam, equivalent to Ιρηνοπολις, or "abode of peace." Others entitle it مدينة الخلفاء Medineht al Kholafa, the "city of the Khalifs," in addition to its name of بغداد Baghdad. Many vague tales, which I will not transcribe, are related by oriental writers in the Tarikhi Baghdad, and other works of the day on the origin of this name; but we learn that that part of the city west of the Tigris was known also as Kerkh قرخ a name merely implying a "pleasant habitation," and that Resafeh* رصافه was an extensive suburb of the city extending to Kilwatha, identical with the modern Gerareh. In its flourishing period under the Khalifs, the suburbs and gardens for miles around derived their water, though washed by the Tigris, from the great Nahrwan canal; a work originating in remote antiquity, but restored under the vigorous administration of the early Khalifs. I have given a full description of this great aqueduct in a former paper, which will be found in the Transactions of the Geographical Society of Bombay.

The enclosed area within the present walls of Baghdad contains seven hundred and thirty-seven acres; the eastern portion of the city extending over five hundred and ninety-one, and the western over one hundred and forty-six acres. The singular alignments of the walls will be best seen from the plan. They are very irregular, and seem to have been constructed on no systematic plan, but to have been drawn around the various groups of buildings as they then stood. I have not been able to learn in whose reign they were first designed, but, powerful as the earlier Khalifs were, we may presume that no invasion was feared in a city whose monarchs governed from the Oxus to Gibraltar. The glory of Greece had set, and that of Rome was so declined as to offer but feeble and distant menace to those who had overrun kingdoms, and whose hordes were yet united, either for the dissemination of the faith or for the punishment of infidels. The vast armies that acknowledged and proclaimed the supremacy of the Khalif of Baghdad in every direction were, indeed, sufficient guarantees for the safety of the "City of peace;" and we may presume, therefore, that Baghdad, whatever inward defences it may have had against a turbulent townspeople,† remained for a period ungirt by a wall. The excitement of conquest over, discord prevailed among leaders who set themselves up in oppo-

* This was first peopled by Mehdi, the son and successor of Al Mansur.

† Matasim Billah, the eighth Khalif, quitted Baghdad, and made Samara into a capital, where he and a few of his successors resided for a time on account of the refractory disposition of the inhabitants.

sition to sovereign authority; particularly when the Khalifs no longer led in person, but, revelling in sloth and effeminate pleasures, wanted the energy to repel disorders both at home and abroad. From a fine Arabic inscription in relief on a scroll-border around the tower of the Talismanic gate باب الطلسم we gather that that portion of it at least was built in A. H. 618, at the beginning of the thirteenth century of Christ, by the Khalif Abul Abbas-an-Nasred-din. This is a fine specimen of Saracenic brickwork; and, if we except the holes made in it by artillery during some sieges, it looks as fresh as if it were but a recent work. In all probability it is of later construction than many parts of the foundations of the wall, for they bear the impress of age, and exhibit, moreover, the open brick and mortar work peculiar to the older Masannehs.* The foundation of the Baghdad walls may, therefore, date from the third century of the Hejireh, when alarms were first experienced from without.† The decline of the place is well marked on the face of them, for we observe all shades of patchwork during successive centuries, even to the "wattle and dab" embankments, hastily thrown up as stop-gaps, where, to prevent smuggling, the authorities have been too poor to give a more substantial repair. It has ten round towers, half enclosed within the outer wall, which, where they are situated, forms a semi-lune around them. These are solid constructions of brick with embrasures, and some few cannon on each, the numbers of which are represented on the map.‡ Many of these are of large calibre, long and heavy, and fine specimens in copper and brass of the ornamented guns such as were cast in the flourishing periods of the Turkish empire. Most of them were cast in Baghdad, which cannot now boast of a foundry capable of making a small ordinary cannon. There are some iron pieces of various nations, brought, doubtless, by the Tigris from Basreh, where they have been procured from foreign ships. Most of the pieces are sadly honeycombed, and their enormous vents show they have had much use in their day. Little damage need be apprehended from them now, crippled as they are in carriages; some of them even lying on the platform without any at all. There is some talk of converting them into copper and brass money; but the difficulty is, how to break them up for coining; and to remove them bodily, with Baghdad men and appliances, seems to

* A name applied to substantial embankments of masonry, built principally as water defences, on which the fortifications are raised.

† In the Nushat al Qulub of Abdallah Mastafi we read of a wall of lime and kiln-burnt bricks, surrounded by a ditch, having been erected by Mustadhir Billah, the eighteenth Khalif, in about A. H. 300, or A. D. 913.

‡ Thus, "cannon."

be out of the question. Many date their construction from two centuries back. The wall itself rises from a fosse originally about eighteen feet deep to the same height above the plane beyond.

A strong embankment girts the ditch on the outside; and situated at irregular intervals between the round towers are buttresses, or half bastions of unequal dimensions, to give strength to the *escarpe* or *révétement* of the wall, as well as to protect it by a flanking fire, being, like the wall itself, loop-holed for musketry. On the inside, this wall is exposed only for thirteen feet, the rest being concealed by a thick rampart of earth, which strengthens it and serves at the same time to protect the *enceinte* from inundations of the river, which fill the moat and press hard upon the fortifications. The wall affords some shelter to its defenders by being poorly arched, somewhat in the form of casemates; over these is a roadway a few feet broad; the top of the wall, which is embattled, acting as a parapet above it. Four gates, with solid bridges* over the ditch, originally led to the plains beyond. Three only are now open, namely the north-west one, or Bab al Moadhem;† the south-east one, or Bab-as-Sherki باب الشرقي; and the middle gate باب الوسطاني Bab al Wastani; the Bab al Telism, before mentioned,‡ having been closed according to custom, since the Sultan Murad IV. issued from it on his departure for Constantinople after capturing the city from the Persians. The circuit of the eastern fortifications, including the river face, is ten thousand six hundred yards, that of the west being five thousand eight hundred yards; making an entire length of sixteen thousand four hundred yards of wall, an extent of brick work equal to nine miles and two and a quarter furlongs nearly of English statute measure.§ Such, however, is its state, that it offers scarcely any impediment to a well-appointed force, as a breach could be effected anywhere in a few minutes' cannonade; and the numerical strength of the garrison and fighting population is so small as to be incapable of

* In execrable repair.

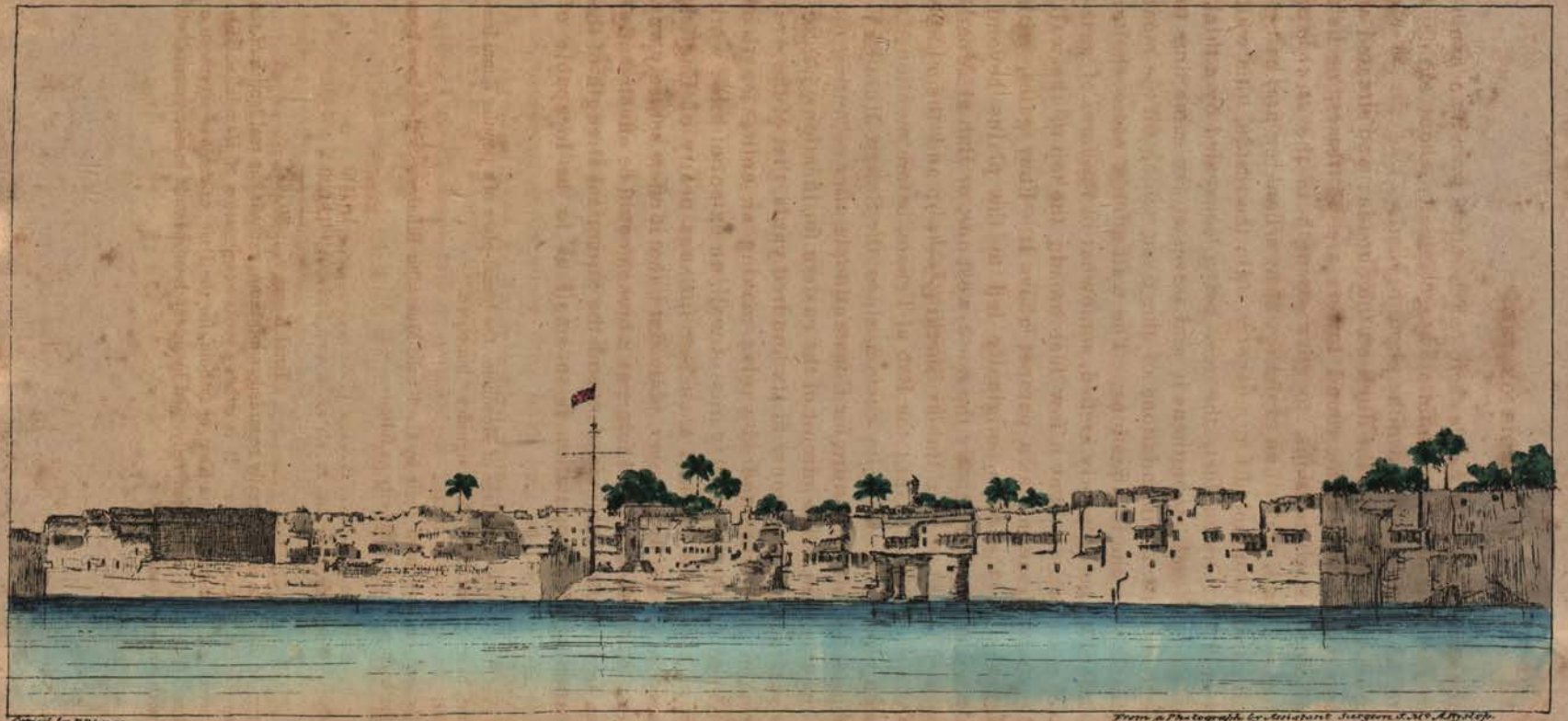
† Named thus from facing the village of Moadhem, the burial-place of a popular Sunni lawgiver and saint, bearing that title, which signifies "honoured."

‡ Page 309.

§ The walls said to have been built by the Khalif Mustadhir Billah are said to have been respectively for both portions of the city as follows:—

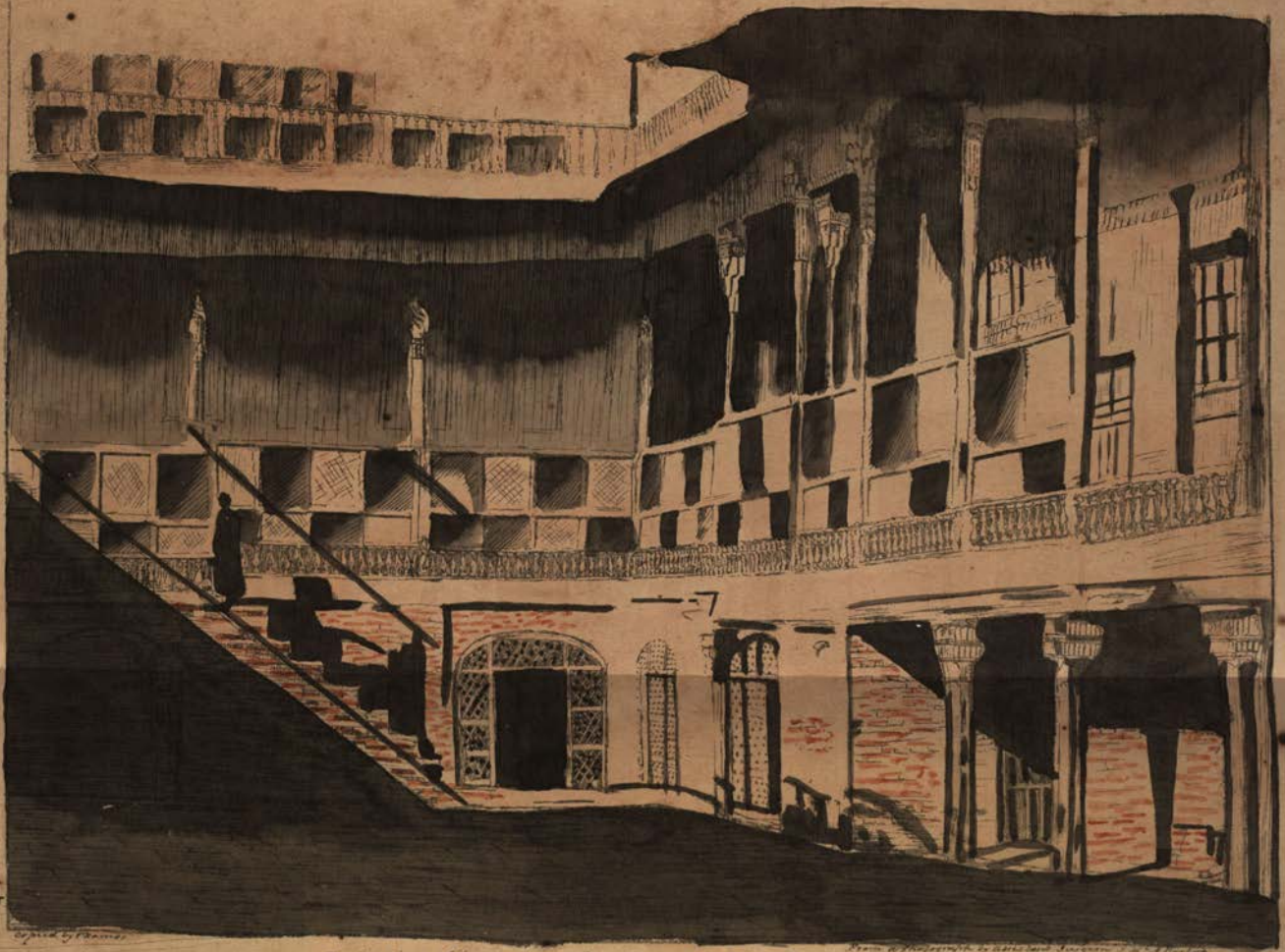
	Kams.
East side	18,000
West side	12,000
Total Kams.	30,000

This quantity, if the Kam is universally regarded as a fathom, exceeds the real length of the walls by three-fourths of the number. It is either a gross exaggeration of Hamdallah Mustafa, or an error in his mistaking the Kam, or fathom, for the Draa, or cubit of seventeen or eighteen inches. The latter, more generally used by orientals in masonic measurements, will about agree with modern observation.



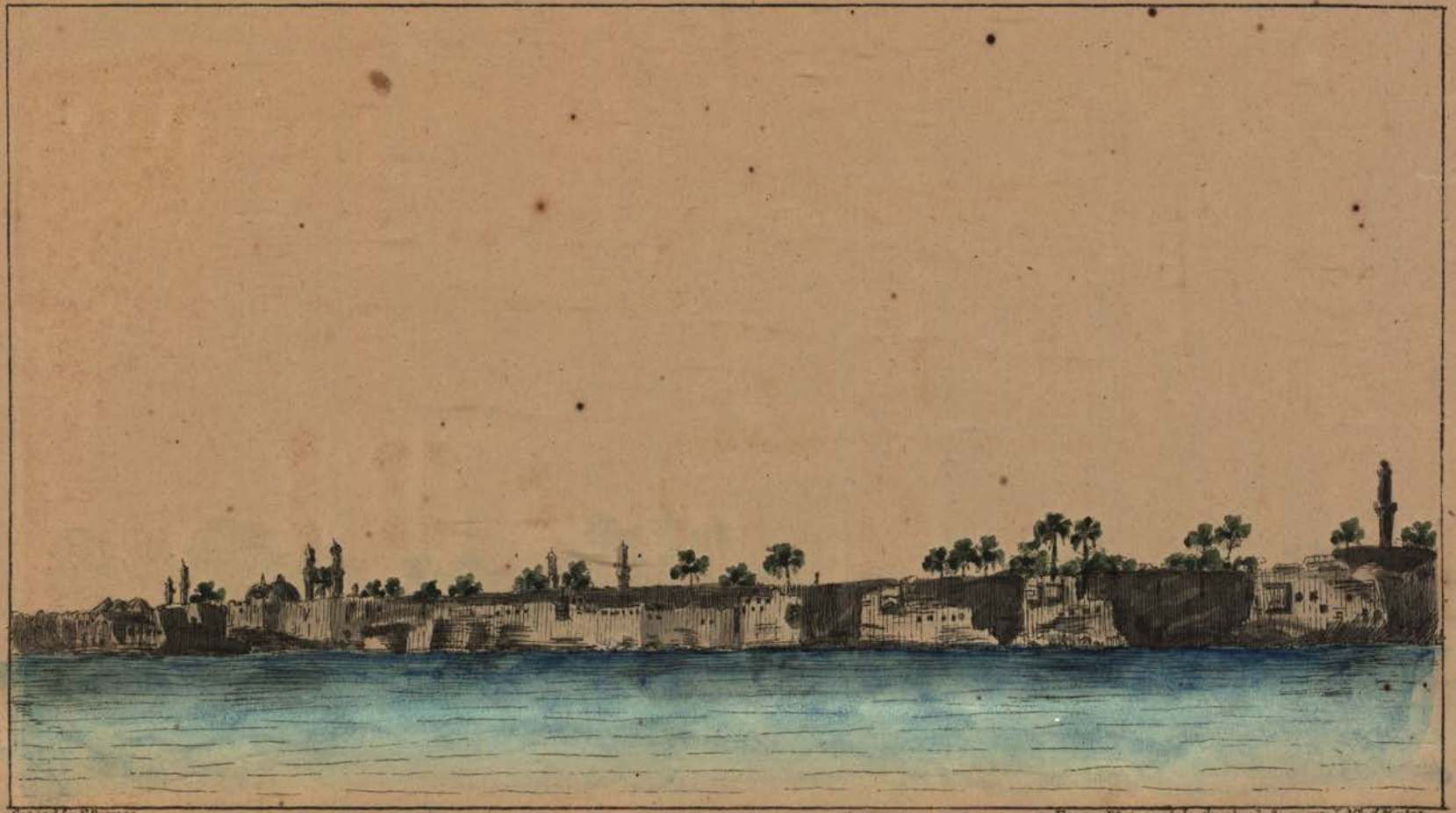
Copied by P. Rimer. From a Photograph by Assistant Surgeon S. McA. Ryslop.

Sketch of the East face of Baghdad on the Tigris on either side of the British Residency.



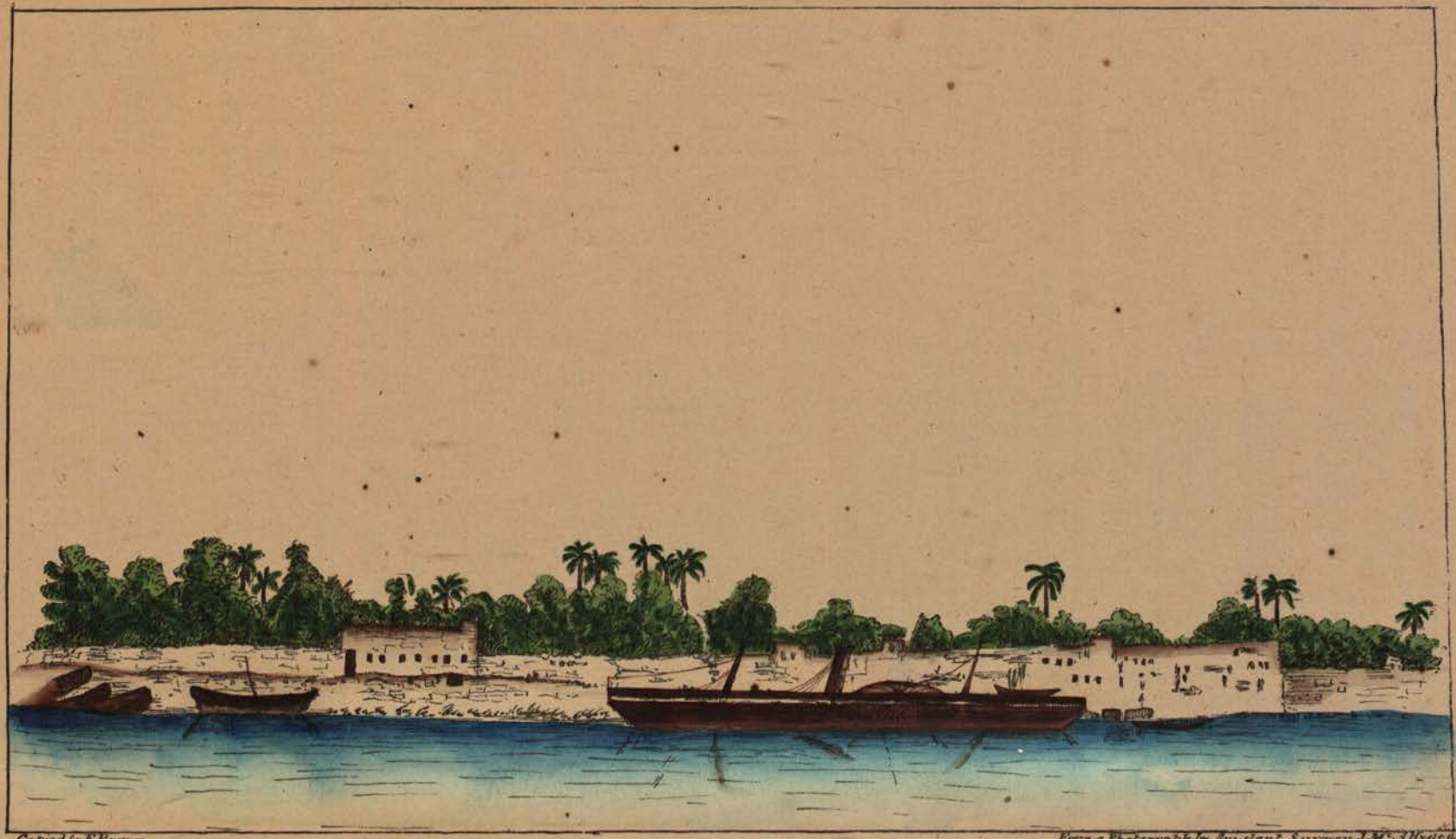
Interior Court of the British Residency Baghdad

View of the River lane of houses from the British Residency to Haji Selim's. Baghdad



Copied by F. Ramos. From a Photograph by Assistant Surgeon J. McA. Hyslop.

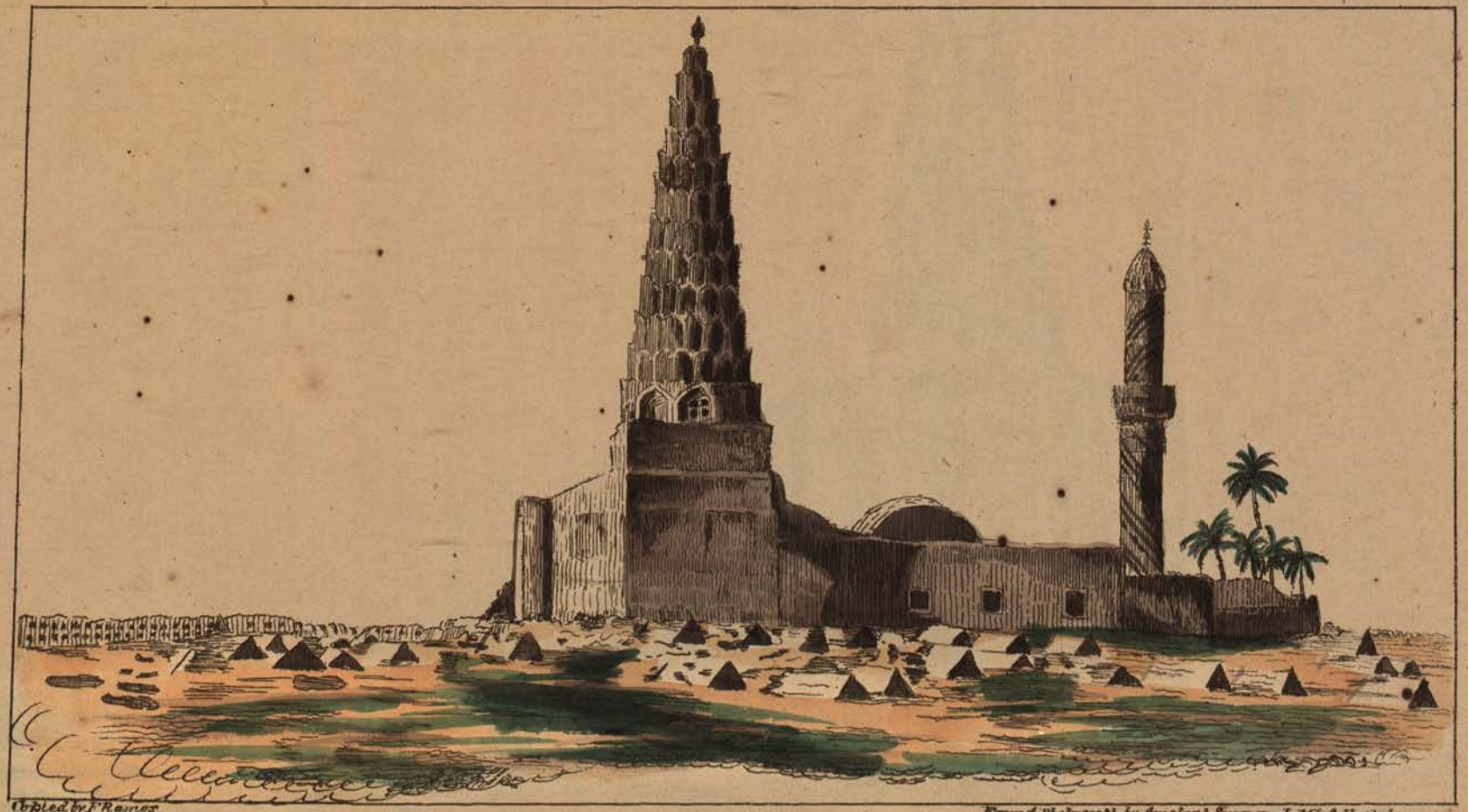
General View from the Bridge to the Mehkemeh.
Baghdad.



Copied by F. Ramus. From a Photograph by Assistant Surgeon J. McC. Hyslop.

The Steam Vessels Depot from the West bank of the Tigris.

Sketch in Bagkdad

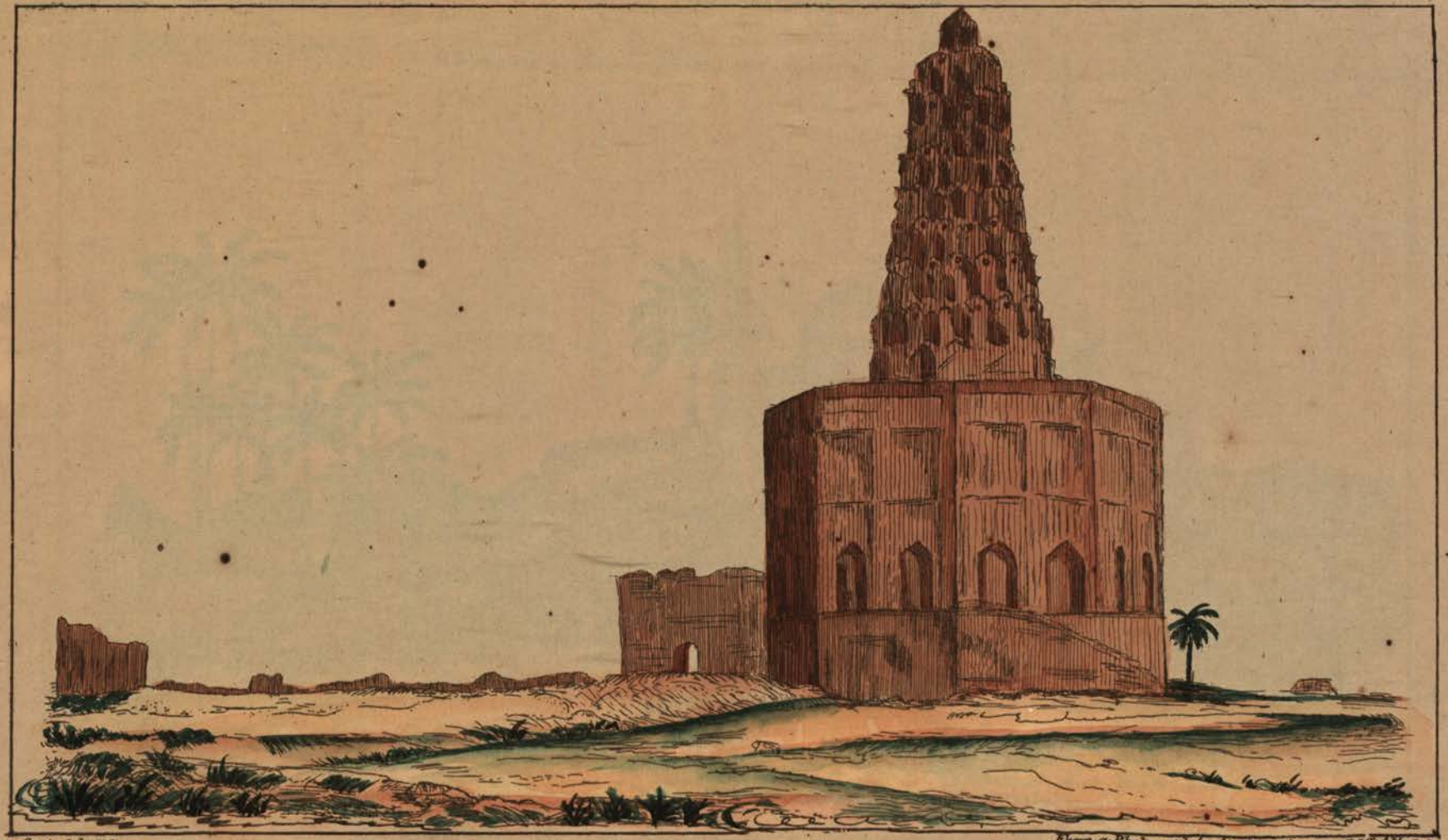


Copied by F. Ramos

From d. Photograph by Assistant Surgeon J. M.c A. Hystop.

Tomb of Sheikh Omer Sháhábood din

Baghdad.



Copied by E. Ramer

From a Photograph by Assistant Surgeon J. M. A. Hystop

Tomb of the Lady Tobeideh from the North.
Baghdad.

View of Sheikh Maruf, from the North.
Baghdad.

covering the defences, if threatened in more points than one. On the river face the town is quite open; and, with small steamers, or gunboats, judiciously anchored so as to command the Sheriahs, or landing-places, an invading force might take possession of the place, either through the windows or balconies of the houses, or by a deliberate march through the open streets. The citadel offers only the same defences as the town.

The interior arrangements of the town, with a notice of its most prominent public buildings, will be best seen from the following tabulated form explanatory of the map. The bazars offer nothing beyond the ordinary assemblage of men and goods pertaining to most eastern bazars. They have been described by many travellers at various times when they were in a more flourishing condition. The streets are of the same narrow and confined form as other Asiatic cities; and a wander through them, if we except a few of the mosques and shrines,* affords a view only of blank brick walls, with abutting balconies, closed or partially screened from a too prying curiosity. The interior of many of the older houses will, however, repay a visit, for they are handsomely ornamented with glass, and the walls are often embellished with arabesque scrolls and verses from the Koran, or with couplets from favourite poets in both Persian and Arabic characters. They are, too, comfortably fitted up within during winter time, while the summer vaults, or Sirdabs, under ground, are unique residences, as necessary to the climate as they are curious to the stranger in these parts.

The nine views of Baghdad which now follow are kindly furnished me by Dr. Hyslop. They are photographs of his own taking, quite true, though somewhat indistinct owing to deterioration of the collodion.

* Some of these are really fine structures, and give to Baghdad the tone and character which generally pervade our ideas of an oriental city. In addition to this, many shrines within the town are held in great veneration by Mahomedan sectaries; and the political importance of the country is greatly enhanced by similar erections in the districts adjoining the capital. I may instance Kathemein, Samara, Kerbela, and Najuf, as towns which must ever attract the national cupidity of Shiah Governments, as well as attach themselves to the religious fervour of their people.

Disposition of the East portion of the Town.

Quarter or Parish.	Public Buildings and Groups of Houses included within.		Remarks.
No. 1.—Mahalet Suk al Ghazil (محلة سوق الغزل)	جامع سوق الغزل	Jama Suk al Ghazil...	The most ancient mosque in the city. Built by order of the Khalif Mostansir Billah in A. H. 633. The minaret now remains only.
	سوق الغزل	Suk al Ghazil	Thread market.
	عقد دجيلاوين	Aked Dijeilawin	Aked is a term signifying a group or knot of houses between two streets.
	عقد حفرة چيه	Aked Hafrehchiyeh	
	عقد شيشرة چيه	Aked Shishrehchiyeh.	
	عقد كنيسيه	Aked Keniseh.	
	عقد مزرقچي	Aked Mazrakchi.	
	عقد كلخانه	Aked Kulkhaneh.	
	عقد تنانير	Aked Tenanir.	
	عقد دكة صمور	Aked Deket Samur.	
	قهوة الاغا	Kahwet el Agha.....	Coffee house.
	عقد علوة المخاضر	Aked Alooet el Mukha-[der.	
No. 2.—Mahalet Ras al Kerieh or Gereyeh (محلة راس الكريه)	عقد سقاقي	Aked Sekaki.	
	عقد خاصكي	Aked Khaseki.	
	جامع الخاصكي	Jama el Khaseki.	Mosque said to have been an old Christian church; built A. H. 1094.
	عقد كاور	Aked Gaour.	
	عقد الكصيف	Aked el Kasif.	
	عقد رواق	Aked Rawak.	

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 2.—Mahalet Ras al Kerieh or Gereyeh (محلة راس الكريه)	عقد حاجى امين	Aked Haji Amin.	
	عقد حمام حيدر	Aked Hamam Hyder.	
	عقد جنابين	Aked Jenabiyin.	
	عقد العمار	Aked el Amar.	
	عقد تكية البدوى	Aked Tekeyet el Bedwi.	
	عقد ضيّق	Aked Dhaiyek.	
	عقد ابو يعقوب	Aked Abu Yakub.	
No. 3.—Mahalet Syud Sultan Ali (محلة سيد سلطان علي)	جامع سلطان علي	Jama Sultan Ali.	Mosque of Syud Sultan Ali; rebuilt by Ibrahim Pacha in A. H. 1093; but the tomb existed there previously.
	عقد جاموس	Aked Jamus.	
	تكيه قزره علي	Takieh Kazreh Ali.	
	عقد سيد سلطان علي	Aked Syud Sultan Ali.	
	عقد سبع بكار	Aked Seba Bekar.	
	قهوة مسجد	Kahwet Musjed.....	Coffee house.
	جامع حاجى نعمان	Jama Haji Naman.	
	بقچه لى قهوة	Bakchelli Khawet	Coffee house.
	عقد عجيليين	Aked Ajiliyin.	
	عقد قاطرخانه	Aked Katerkhaneh.	
	قهوة قاطرخانه	Kahweh Katerkhaneh.	Coffee house.
	سوق قاطرخانه	Suk Katerkhaneh.....	Bazar.
	قهوة دياب	Kahweh Dhiab.....	Coffee house.
	قهوة ام نخله	Kahwet um Nakhleh.	Ditto.
No. 4.	عقد الحطابه	Aked el Hattabeh.	

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 4.—Mahalet Aát Aghaji (محلة ات اغاجى)	عقد سميكه	Aked Semikeh.	
	عقد كمش دزكين	Aked Gumesh Disgiyin.	
	عقد الكاور	Aked el Giaur.	
	عقد اوبنجى	Aked Aoubenji.	
	عقد العطاطير	Aked el Atatir.	
No. 5.	.....	The quarter of the Jews with principal Synagogue.	
No. 6.—Mahalet Gambar Ali (محلة قنبر على)	جامع قنبر على	Jama Gambar Ali.	
	قهوة اسمعيل كهيه	Kahwet Ismail Kihayeh	Coffee house.
	قهوة الوقف	Kahwet el Wakef	Ditto.
	قهوة تختة بند	Kahwet Takhtabend..	Ditto.
	حمام قنبر على	Hamam Gambar Ali..	Bath.
	عقد باب صغيره	Aked Bab Seghireh.	
	عقد مسجد عبدالغنى	Aked Musjed Abdul Ghani.	
	عقد حمام	Aked Hamam.	
	عقد سيد عبدالله	Aked Syud Abdullah.	
	عقد تكيه	Aked Takyeh.	
	عقد فراشه	Aked Ferasheh.	
	عقد ضيق	Aked Dhaiyek.	
	عقد اليهود	Aked el Yahud.	
	عقد نجاجير	Aked Nejajir.	
	عقد الخبابيز	Aked el Khubabiz.	
	عقد القلوغ	Aked el Kelugh.	
No. 7.	جامع مرجانيه	Jama Merjaniiyeh	Mosque; built by Merjan ibn Abdullah ibn Abderrahman as Sultan al Ool Khani, A. H. 758.*

* A. D. 1356-57.

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 7.	خان المرجانيه	Khan el Merjaniyeh (*a*).	Khan; attached to the mosque.
No. 8.	قهوة الاورتمه	Kahwet el Aourtmeh..	Coffee house.
	خان الاورتمه	Khan el Aourtmeh....	The enclosed Khan, an ancient edifice of peculiar Saracenic construction, with vaulted roof, hence its name. It is said to have been an ancient Christian church, but I doubt it, and believe it to be connected with the mosque of Merjanieh originally from its being entailed property of that structure. It bears the date of A. H. 758.*
No. 9.—Mahalet Heider Khaneh (محلة حيدر خانه)	عقد حيدرخانه	Aked Heider Khaneh.	
	عقد جامع	Aked Jama.	
	جامع داود پاشا	Jama Dawud Pacha ..	Mosque of the Heider Khaneh; built A. H. 1243† by Dawud [Pacha.
	عقد شفتالى	Aked Shaftali.	
	عقد خشالات	Aked Khushalat.	
	عقد ايمش	Aked Imish.	
	قهوة بزاره	Kahwet Bezareh	Coffee house.
	قهوة حسن	Kahwet Hassan.....	Ditto.
	قهوة كنبتلى	Kahwet Gambatli....	Ditto.
	قهوة ايمش	Kahwet Imish	Ditto.
No. 10.	جامع احمد كهيا	Jama Ahmed Kehya..	Mosque, built A.H. 1211;‡ a very handsome enamelled dome. The rents of the Meidar bazars are all bequests to this mosque.

* A. D. 1356-57. † A. D. 1827. ‡ A. D. 1796.

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 11.—Mahalet Hussein Pacha (محلة حسين پاشا)	جامع حسين پاشا	Jama Hussein Pacha.	Mosque in ruins now. A. H. 723* is the date of its erection.
	عقد الجامع	Aked el Jama.	
	عقد مصفر اغا	Aked Mussafer Agha.	
	عقد باب صغيره	Aked Bab Saghireh.	
	عقد ممچى خليل	Aked Mumchi Khelil.	
	عقد سروان باشى	Aked Serwan Bashi.	
	عقد جبهچى	Aked Jebechi.	
No. 12.—Mahalet el Fadel (محلة الفضل)	عقد دابات	Aked Dabat.	
	عقد طاق ابوصلال	Aked Tak Abu Sellal.	
	عقد خان لاوند	Aked Khan Lawend.	
	عقد تبانه	Aked Tebaneh.	
	حمام عيفان	Hamam Aifan.....	Bath.
	قهوة تختته بند مال ابو عصفور	Kahwet Takhtahbend-mal Abu Asfur.....	Coffee house.
	عقد دكان شلال	Aked Dukan Shelal.	
	عقد سيد عبدالله	Aked Syud Abdullah.	
	جامع الفضل	Jama el Fadel	Mosque; built A. H. 1197† by Suliman Pacha and richly endowed.
	قهوة احمد افندى	Kahwet Ahmed Effendi	Coffee house.
	قهوة الوقف	Kahwet el Wakef	Ditto.
	عقد الجامع	Aked el Jama.	
	عقد جبچهى	Aked Jebechi.	
	قهوة تبانه	Kahwet Tebaneh	Coffee house.
No. 13.	جامع باب الاغا	Jama Bab el Agha ..	Mosque.
	عقد دشت	Aked Desht.	

N.E. of this quarter, near the middle gate, stands the tomb of Sheikh Omer Shahaboodin, or "The flaming sword of the faith." It was erected in A. H. 622 (A. D. 1225).

* A. D. 1323. † A. D. 1782.

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 13.—Mahalet Bab el Agha (محلة باب الاغا)	قهوة صغيره	Kahwet Seghireh	Coffee house.
	عقد باب الاغا	Aked Bab el Agha.	
	عقد علويه	Aked Aliviyeh.	
	قهوة پروازى	Kahwet Perwazi	Coffee house.
	سوق حدادين	Suk Hadadiyin	Bazar of blacksmiths.
	عقد ضيق	Aked Dhaiyek.	
	سوق اسكچيه	Suk Askechieh	Bazar.
	حمام پنچه على	Hamam Penja Ali....	Bath.
	عقد صفافير	Aked Sefafir.	
	سوق باب الاغا	Suk Bab el Agha	Bazar.
	عقد مينارة مكطومه	Aked Menaret Maktumeh.	
No. 14.—Mahalet Aakuliyeh (محلة عاقوليه)	عقد العاقوليه	Aked el Aakuliyeh	There is a mosque in this quarter named Jama el Aakuliyeh, of date A. H. 1095.*
	عقد زراق حسين	Aked Zerak Hussein.	
	عقد الطاق	Aked el Tak.	
	عقد محمود اصطه	Aked Mahmud Usteh.	
	عقد الصخر	Aked el Sekher.	
	عقد روبيعى	Aked Rubiyai.	
	عقد ابودابس	Aked Abu Dabes.	
	حمام كيچه چيه	Hamam Kichechieh ..	Bath.
	قهوة كيچه چيه	Kahwet Kichechieh ..	Coffee house.
No. 15.	عقد كمش حلقه	Aked Gumush Halkeh.	The mosque of Khidhr Beg; built A.H. 1133.† Some lands in Hilleh are entailed property of this mosque.
	عقد إمام طبه	Aked Imam Tabeh.	

* A. D. 1683. † A. D. 1720.

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 15.—Mahalet Jama Khader Beg (محلة جامع خضر بيك)	عقد على افندى	Aked Alí Effendi.	
	عقد باب الجامع	Aked Bab el Jama.	
	عقد ابو دراج	Aked Abu Deraj.	
	عقد حمّص چى	Aked Humuschi.	
	عقد الضيّق	Aked el Dhaiyek.	
No. 16.	جامع العادليه	Jama el Aadeliyeh ..	Mosque.
	خان العادليه	Khan el Aadeliyeh ..	Caravanserai.
No. 17.	قهوة جديه	Kahwet Jedidet.....	Coffee house.
	قهوة المحكمه	Kahwet el Mehkemeh.	Ditto.
	حمام القاضى	Hamam el Kadi	Bath.
No. 18.	خان التمر	Khan el Tamer	Date Caravanserai.
	قهوة خان التمر	Kahwet Khan el Tamer.	Coffee house.
No. 19.	خان الدفتردار	Khan el Defterdar....	Caravanserai.
No. 20.	خان المصبغه	Khan el Masbagheh..	Caravanserai.
No. 21.	خان الكمرك	Khan el Gumeruk....	Coffee house.
	حمام الكمرك	Hamam el Gumeruk..	Bath.
	قهوة كافل حسين	Kahwet Kefil Ali	Coffee house.
	قهوة الكمرك	Kahwet el Gumeruk..	Ditto.
No. 22.	سوق الصياغ	Suk el Siyagh	Bazar of gold and silversmiths.
No. 23.	سوق هرج	Suk Haraj	Bazar of auctions; entailed property on the mosque of Kaplaniyeh.

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 24.	سوق المولة خانه	Suk Mulleh Khaneh...	Bazar and mosque; these built by Dawud Pacha in A. H. 1242. The former is entailed on the latter.
No. 25.—Mahalet Suffafir (محلة صفافير)	عقد قيما قام	Aked Kaimakam.	
	عقد حاجي حضر اغا	Aked Haji HaderAgha.	
	عقد سكّه خانه	Aked Sekkeh Khaneh.	
	قهوة سكّه خانه	Kahwet Sekkeh Khaneh	Coffee house.
	قهوة قزازين	Kahwet Gazaziyin....	Ditto.
	خان قپجي كهيه سي	Khan Kapiji Kehiasse.	Caravanserai.
	خان صفار	Khan Seffar	Ditto.
	خان معظماوى	Khan Madhmavi	Ditto.
	عقد قپلانيه	Aked Kaplaniyeh.	
	خان يعقوب	Khan Yakub	Caravanserai.
	جامع كپلانيه	Jama Kaplaniyeh	Mosque; built A. H. 1134.* The Suk el al Kharej is entailed property of this mosque.
	قهوة صفافير	Kahwet Suffafir.....	Coffee house.
No. 26.	جامع الوزير	Jama el Wezir	Mosque of the Wezir; built in 1008† of the Hejreh.
No. 27.	جسر و قشلا	Jesser ou Kishleh	Bridge and barrack. Just south of this stand the remains of the celebrated college of the Khalif Mastansir Billah. It was erected in A. H. 630,‡ and bears a fine inscription.
No. 28.	قشلا	Kishleh	Barrack and hospitals.

* A. D. 1721. † A. D. 1599. ‡ A. D. 1232.

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 29.	سراى	Serai	Government offices and palace.
No. 30.	حرم	Harem	Women's apartments.
No. 31.—Mahalet Bab el Muadhem (محلة باب المعظم)	جامع الپاشا	Jama el Pacha	Mosque of the Pacha; built by Hassan Pacha in A. H. 1133.*
	جامع ازبكيه	Jama Azbeggiyeh	Mosque of Usbegs.
	عقد الطوب	Aked el Tub.	
	عقد قصاب باشى	Aked Kessab Bashi.	
	قهوة قصاب باشى	Kahwet Kessab Bashi.	Coffee house.
	عقد قمر الدين	Aked Kamereddin.	
	عقد دلى عبّاس	Aked Deli Abbas.	
	عقد قهوة المجاريه	Aked Kahwet el Mejarieh.	
	قهوة سعدى	Kahwet Saudi	Coffee house.
	قهوة الوقف	Kahwet el Wakef	Ditto.
	قهوة سقه خانه	Kahwet Sekeh Khaneh.	Ditto.
No. 32.—Mahalet el Meidan (محلة الميدان)	قهوة المصلّا	Kahwet el Mussla....	Coffee house.
	باب القلعه	Bab el Kelaeh.	
	جامع القلعة	Jama el Kelaeh	Mosque of the citadel.
	قهوة سقاقى	Kahwet Sekaki	Coffee house.
	عقد البقچه	Aked el Bakcheh.	
	عقد الشريعه	Aked el Sheriaeh.	
	عقد نجم الدين	Aked Najem el Din.	
	عقد المدرسة	Aked el Madrasseh.	
	عقد انبار	Aked Anbar.	
	عقد كنج اغا	Aked Kenj Agha.	

* A. D. 1720.

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 32.—Mahalet el Meidan (محلة الميدان)	خان حسن بيك	Khan Hassan Beg....	Caravanserai.
	خان احمد كهيه	Khan Ahmed Kehiyah.	Ditto.
	قهوة الوقف	Kahwet el Wakef	Coffee house.
	سوق احمد كهيه	Suk Ahmed Kehiyah..	Bazar.
	قهوة الخان	Kahwet el Khan	Coffee house.
No. 33.—Mahalet Palanchiyeh (محلة پلانچيه)	سوق البلانچيه	Suk el Palanchiyeh ..	Bazar.
	قهوة پلانچيه	Kahwet Palanchiyeh..	Coffee house.
	عقد بابا كركر	Aked Baba Gurgur.	
	عقد رزنامه‌چى	Aked Reznamechi.	
	عقد ريس پلانچيه	Aked Reis Palanchiyeh.	
	عقد عبد الله پاشا	Aked Abdallah Pacha.	
	عقد شاحين	Aked Shahiyin.	
	قهوة تخته بند	Kahwet Takhtabend ..	Coffee house.
	قهوة اچق باشى	Kahwet Achek Bashi.	Ditto.
	حمام البلشا	Hamam el Pacha	The Pacha's bath.
	سوق الحمام	Suk el Hamam	Bazar of the bath.
No. 34.—Mahalet Eylan Dili (محلة ايلان ديلى)	جامع احمد افندى	Jama Ahmed Effendi..	Mosque.
	عقد شا بندر	Aked Sha Bender.	
	عقد ساقيه	Aked Sakiyeh.	
	جامع على افندى	Jama Ali Effendi	Mosque.
	عقد جامع على افندى	Aked Jama Ali Effendi.	
	عقد الكرد	Aked el Kurd.	
	عقد الطاق	Aked el Tak.	
	عقد تپة الكرد	Aked Tepet el Kurd.	
	قهوة ايلان ديلى	Kahwet Eylan Dili ..	Coffee house.

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 35.—Mahalet el Muradiyeh (محلة المرادية)	جامع مُراد پاشا	Jama Murad Pacha ..	Mosque called Muradiyeh; built in A. H. 870* by Murad Pacha. It has many endowments, among others the Beled Ruz canal from the Diyaleh.
	خان المرادية	Khan el Muradiyeh ..	Caravanserai.
	عقد مير بحر	Aked Mir Bahar.	
	عقد طاطاران	Aked Tataran.	
	عقد دكان ضاحى	Aked Dukan Dhahi.	
	عقد پير داوُد	Aked Pir Dawud.	
No. 36.—Mahalet el Topchiyeh (محلة الطوپچية)	جامع الخاتون	Jama el Khatun.....	Mosque.
	عقد الپاشا	Aked el Pacha.	
	عقد مير اخور	Aked Mir Akhur.	
	عقد فيظل الله كهيه	Aked Fidullah Kihayeh.	
	عقد قهوة دودى	Aked Kahwet Dudi.	
	قهوة دودى	Kahwet Dudi.....	Coffee house.
	عقد طوپچيه	Aked Topchiyeh.	
No. 37.—Mahalet Karaaol (محلة قره اول)	عقد افظ چير	Aked Afezchir.	
	عقد قره اول	Aked Karaaol.	
	عقد مهدى اغا	Aked Mehdi Agha.	
	عقد الپاچه چى	Aked el Pachechi.	
	عقد زند	Aked Zend.	
No. 38.—Mahalet Gug Nezer (محلة كوك نظر)	عقد صابونچيه	Aked Sabunchiyeh.	
	عقد كله چيه	Aked Kelechiyeh.	
	عقد رئس كنيسه	Aked Reis Kenisseh.	
	قهوة تختة روانچى	Kahwet Takhtaruanji.	Coffee house.

* A. D. 1465.

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 38.—Mahalet Gug Nezer (محلة كوك نظر)	عقد تپه الكاور	Aked Tepeh el Giaur.	
	عقد قليج عبد الله	Aked Kelij Abdallah.	
	عقد شيخ محمد	AkedSheikh Mohamed.	
	عقد مسجد حاجي علي	Aked Musjed Haji Ali.	
No. 39.—Mahalet Dukan Shunawet (محلة دكان شناوة)	قهوة المختار	Kahwet el Mukhtar ..	Coffee house.
	عقد سراريج	Aked Serarij.	
	عقد حاجي علي	Aked Haji Ali.	
	عقد سبيل خانه	Aked Sebil Khaneh.	
	جامع الخانم	Jama el Khanem	Mosque.
	عقد الخانم	Aked el Khanem.	
	عقد رسول اغا	Aked Russul Agha.	
	عقد حمادي	Aked Humadi.	
	عقد چوقدار اغا	Aked Chukadar Agha.	
No. 40.—Mahalet Genj Osman (محلة كنج عثمان)	عقد حرم	Aked Harem.	
	عقد المدرسه	Aked el Madrasseh.	
	عقد سوري قهوة	Aked Suri Kahweh.	
	جامع نعمانيه	Jama Namanieh.....	Mosque.
	عقد الاخور	Aked el Akhur.	
	قهوة كنج عثمان	Kahwet Genj Osman.	Coffee house.
	سوق كنج عثمان	Suk Genj Osman	Bazar.
No. 41.	مدرسه علي پاشا	Madrasseh Ali Pacha.	College.
No. 42.	جامع اصفيه	Jama Asfiyeh.....	Mosque.
	عقد دنكه چيه	Aked Dungechiyeh.	
	عقد سماكه	Aked Semakeh.	

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 42.—Mahalet Dungechiyeh (محلة دنكه چيه)	عقد عادليه صغيره	Aked Adliyeh Seghireh.	
	عقد شعبان بيك	Aked Shauban Beg.	
	عقد بارودچى	Aked Barudchi.	
	خان دنكه چيه	Khan Dungechiyeh ..	Caravanserai.
	جامع عادليه	Jama Adliyeh	Mosque.
	قهوة دنكه چيه	Kahwet Dungechiyeh.	Coffee house.
No. 43.—Mahalet el Mehdieh (محلة المهديه)	جامع المهديه	Jama el Mehdieh	Mosque.
	قهوة المهديه	Kahwet el Mehdieh ..	Coffee house.
	عقد شيخ نصر	Aked Sheikh Naser.	
	عقد ابو عامر	Aked Abu Eumer.	
	عقد شبه	Aked Shebbeh.	
	عقد تيره	Aked Tireh.	
	عقد سيد هديه	Aked Syud Hadiyeh.	
	عقد شراد	Aked Sherad.	
	عقد دوربين	Aked Durbiyin.	
No. 44.—Mahalet Abbas Effendi (محلة عباس افندى)	قهوة عباس افندى	Kahwet Abbas Effendi.	Coffee house.
	قهوة شيخ محمود	Kahwet Sheikh Mahmud	Ditto.
	قهوة ابن بش بش	Kahwet Ibn Bishbish .	Ditto.
	قهوة سالم	Kahwet Salem	Ditto.
	قهوة خضير	Kahwet Khedheir	Ditto.
	قهوة ابوعلى	Kahwet Abu Ali	Ditto.
	عقد ايكنجى	Aked Ikinje.	
	عقد ابراهيم بيك	Aked Ibrahim Beg.	
	عقد طاق سلطان بيك	Aked Tak Sultan Beg.	
	عقد ديوان افنديسى	Aked Diwan Effendissi.	
	عقد شيخ محمود بشيرلى	Aked Sheikh Mahmud Beshirli.	

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 44.	عقد وشوش	Aked Weshush.	
	عقد خليل اغا	Aked Khalil Agha.	
No. 45.—Mahalet Kadi el Hajat (محلة قاضى الحاجات)	عقد كشيش	Aked Keshish.	
	عقد سيّد فرج الله	Aked Syud Feraj Allah.	
	قهوة قاضى الحاجات	Kahwet Kadi el Hajat.	Coffee house.
	قهوة خان عديّن	Kahwet Khan Adiyin.	Ditto.
	قهوة خان الدحن	Kahwet Khan el Dehin.	Ditto.
	قهوة خان الميوة	Kahwet Khan el Miwueh	Ditto.
	عقد العلاوى	Aked el Alavi.	
	عقد الفتاتيل	Aked el Fetatil.	
	عقد اليهود	Aked el Yahud.	
No. 46.—Mahalet Tatran (محلة ططران)	عقد طابوقه‌چيه	Aked Tabukechieh.	
	عقد نقاقيب	Aked Nekakib.	
	عقد حسين وتار	Aked Hussein Wetar.	
	قهوة الوتار	Kahwet el Wetar	Coffee house.
	عقد بنى سعيد	Aked Beni Sayid.	
	قهوة قرط	Kahwet Kert	Coffee house.
	عقد دركزنليه	Aked Derkezenliyeh.	
	عقد الحيّاج	Aked el Heyach.	
	عقد باس	Aked Bas.	
	عقد شمسى	Aked Shemsi.	
No. 47.	جامع شيخ سراج الدين	Jama Sheikh Seraj ed Djn	Mosque.
	سوق شيخ سراج الدين	Suk Sheikh Seraj ed Din	Bazar.

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 47.—Mahalet Sheikh Seraj ed Din (محلة شيخ سراج الدين)	عقد اباريقى	Aked Abariki.	
	عقد صدرى	Aked Sederi.	
	عقد تكمه چى	Aked Tekmechi.	
	عقد سبيل خانه	Aked Sebil Khaneh.	
	عقد طاق العيونيه	Aked Tak el Aywuniyeh	
	عقد اهل برشت	Aked Ahel Burusht.	
	عقد الحيّاج	Aked el Heyach.	
	عقد حبيب	Aked Habib.	
No. 48.—Mahalet Haytawiyin (محلة هيتاوين)	عقد قشله	Aked Keshleh.	
	عقد نبار	Aked Nebar.	
	عقد خان ششترلى	Aked Khan Shushterli.	
	عقد سبتى	Aked Sebti.	
	عقد يرغانچى	Aked Yerghanchi.	
	عقد صندوقچيه	Aked Sandukchiyeh.	
	عقد شيخ ابراهيم القدسى	Aked Sheikh Ibrahim el Kedssi.	
	عقد دكمه چيه	Aked Dugmechiyeh.	
	عقد تنكه چيه	Aked Tunkechiyeh.	
	قهوة هيتاوين	Kahwet Haytawiyin ..	Coffee house.
	سوق هيتاوين	Suk Haytawiyin	Bázar.
	عقد دوكه چيه	Aked Dukechiyeh.	
	عقد سويدان	Aked Suweidan.	
	حمام السيّد	Hamam el Syud	Bath.
	عقد كلخانه	Aked Gulkhaneh.	
	قهوة تختابند	Kahwet Takhtabend..	Coffee house.
No. 49.	عقد صنارة المكتوم	Aked Minareh el Maktum.	

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 49.—Mahalet el Ferasheh (محلة الفراشه)	عقد قرة اصلان	Aked Karet Aslan.	
	عقد نقاقيش	Aked Nakakish.	
	عقد علوة الخيار	Aked Alwet el Khiar.	
	عقد سوق الشورجه	Aked Suk el Shurjeh.	
	قهوة البزارة	Kahwet el Bezareh ..	Coffee house.
	عقد كواس	Aked Kawas.	
	حمام الشرجه	Hamam el Shurjeh ..	Bath.
	عقد الحداد	Aked el Hedad.	
	عقد عينه چيه	Aked Ayinehchiyeh.	
	سوق البقال	Suk el Bakal	Bazar.
	سوق تمارة	Suk Temareh.....	Ditto.
	عقد التمارة	Aked el Temareh.	
No. 50.—Mahalet el Sheikh (محلة الشيخ)	جامع الشيخ	Jama el Sheikh	Mosque and shrine of the celebrated Sheikh Abdul Kader of Ghilan. He was buried here about A. H. 650.* It is visited by many devotees of Islamism from all parts of the Mahomedan world. An aqueduct conveys water to it from the river, and a noble dome serves as a canopy to his grave; this was built A. H. 840.
	عقد الحروب	Aked el Herub.	
	عقد الاغوان	Aked el Aghwan.	
	عقد الشيخ الف	Aked el Sheikh Alef.	
	عقد الف	Aked Alef.	
	عقد قصاب خانه	Aked Kessab Khaneh.	
	قهوة سلمان	Kahwet Selman.....	Coffee house.
	عقد المزنبله	Aked el Muzembeleh.	

* A. D. 1252.

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 50.—Mahalet el Sheikh (محلة الشيخ)	عقد فسلان	Aked Fesslan.	
	قهوة ام النخله	Kahwet um el Nakhleh.	Coffee house.
	عقد شيخ رفيع	Aked Sheikh Refiya.	
	عقد المطبخ	Aked el Matbakh.	
	عقد مندلاوى	Aked Mendelawi.	
	عقد فضوه العرب	Akéd Fadweh el Arab.	
	قهوة فضوه العرب	Kahwet Fadweh el Arab	Coffee house.
	عقد الخناق	Aked el Khenak.	
	عقد تكيه قنديلچى	AkedTekiyeh Kendilchi	
	عقد تكيه بكرى	Aked Tekiyeh Bekri.	
No. 51.—Mahalet Rass el Sakiyeh (محلة راس الساقية)	عقد تسابيل	Aked Tessabil.	
	قهوة تسابيل	Kahwet Tessabil.	Coffee house.
	عقد ساقيه	Aked Sakiyeh.	
	عقد الطاق	Aked el Tak.	There is a mosque in this quarter called Annamaani; built by Sheikh Mahomed Annamaani in A. H. 730.*
	عقد قهوة شكر	Aked Kahwet Sheker.	
	عقد فناهره	Aked Fenahreh.	
	قهوة فناهره	Kahwet Fenahreh.	
	عقد قزازه	Aked Kezazeh.	
	عقد عباچيه	Aked Abachiyeh.	
	عقد معمار	Aked Mamar.	
	جامع قزازه	Jama Kezazeh.	Mosque.
No. 52.	جامع عبد الفتاح	Jama Abdool Fetah ..	Mosque.
	عقد طاق اظلم	Aked Tak Adhelem.	
	عقد شطيه	Aked Sheteyeh.	

* A. D. 1329.

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 52.—Mahalet Senek (محلة سنك)	حمام الراعى	Hamam el Raai.	Bath.
	عقد سادة	Aked Sadeh.	
	عقد قصاصير	Aked Kessassir.	
	عقد دباخانه	Aked Debakhaneh.	
	عقد باب الشرقى	Aked Bab el Sherki.	
	قهوة باب الشرقى	Kahwet Bab el Sherki.	Coffee house.
	عقد الشريعه	Aked el Sheriah.	
No. 53.—Mahalet Jamyleh (محلة جميله)	عقد شيخ خلانى	Aked Sheikh Khelani.	
	عقد ازهرى	Aked Azheri.	
	عقد اندروسى	Aked Andrusse.	
	عقد فس چى	Aked Fuschi.	
	عقد رهليئن	Aked Rehliyin.	
	جامع نعمانى	Jama Namani	Mosque.
	عقد المجاديه	Aked el Mujadiyeh.	
	عقد بهادريه	Aked Bahadriyeh.	
	عقد شيخ بهاء الدين	Aked Sheikh Beha-ed-din.	
	قهوة ابو على	Kahwet Abu Ali	Coffee house.
No. 54.—Mahalet Benat Hassan. (محلة بنات حسن)	جامع بنات حسن	Jama Benat Hassan..	Mosque.
	عقد الوزرى	Aked el Wuzri.	
	عقد كوليه	Aked Kulliyeh.	
	عقد طاق سقر	Aked Tak Sekar.	
	عقد كاتب العربيه	Aked Kateb el Arabiyeh.	
	عقد راس العمار	Aked Rass el Amar.	
	عقد بصاصيم	Aked Bessassim.	

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 55.—Mahalet Ayuniyeh (محلة عيونيه)	جامع حاجى فتحى	Jama Haji Fetuhi	Mosque.
	عقد بردأوئين	Aked Berdawuiyin.	
	عقد ريس العيونيه	Aked Rees el Ayuniyeh.	
	عقد جنابين	Aked Jenabiyin.	
	عقد العيونيه	Aked el Ayuniyeh.	
	عقد عغيل	Aked Aghil.	
	قهوة سليم	Kahwet Selim.	Coffee house.
	قهوة باب الجامع	Kahwet Bab el Jama..	Ditto.
	قهوة ريس العيونيه	Kahwet Rees el Ayuniyeh.	Ditto.
	عقد دكان سيّد مُلاّ حسين	Aked Dukan Syud Mulla Hussein.	
No. 56.—Mahalet Dehaneh (محلة دهانه)	قهوة حسين كردى	Kahwet Hussein Kurdi.	Coffee house.
	عقد قهوة على خان	Aked Kahwet Ali Khan.	
	قهوة دهانه	Kahwet Dehaneh	Coffee house.
	عقد دساميل	Aked Dessamil.	
	عقد نجار	Aked Nejar.	
	عقد قهوة مفاتيس	Aked Kahwet Mefatis.	
	عقد طاق سقه	Aked Tak Sekkeh.	
	عقد عمران اغا	Aked Amran Agha.	
	عقد فانوس	Aked Fanus.	
No. 57.—Mahalet Sebabegh el al (محلة صبا بيغ الال)	عقد صبابيغ الال	Aked Sebabegh el al.	
	قهوة صبابيغ الال	Kahwet Sebabegh el al.	Coffee house.
	عقد كشاب	Aked Keshab.	
	عقد يرغانچى	Aked Yerghanchi.	
	عقد نصارى	Aked Nessara.	
	قهوة صندوقچى	Kahwet Sandukchi ..	Coffee house.

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 57.	عقد صندوقچيه	Aked Sandukchieh.	
	عقد سبچيه	Aked Subchieh.	
	عقد شباره	Aked Shebareh.	
	عقد ضيّق	Aked Dhaiyek.	
No. 58.—Mahalet Murabaeh (محلة مربعه)	عقد الشريعه	Aked el Sheriaeh.	
	قهوة المربعه	Kahwet el Murabaeh..	Coffee house.
	عقد هرموش	Aked Harmush.	
	عقد الفتال	Aked el Fetal.	
	عقد دكان حبوب	Aked Dukan Habub.	
	قهوة حبوب	Kahwet Habub	Coffee house.
	عقد ضريب	Aked Dherib.	
	عقد شالچيه	Aked Shalchiyeh.	
	عقد شفتالى	Aked Shaftali.	
No. 59.—Mahalet Shah Guli (محلة شاه قولى)	جامع حسن پاشا	Jama Hassan Pacha..	Mosque.
	عقد باب السراى	Aked Bab el Serai.	
	عقد كلخانه	Aked Gulkhaneh.	
	عقد صارى كهيه	Aked Sari Kihayeh.	
	عقد قليج اصلان	Aked Kelij Aslan.	
	عقد سرارج	Aked Serarij.	
	عقد مسطاقچيه	Aked Mustafchiyeh.	
	عقد اتميك خانه	Aked Eitmik Khaneh.	
	عقد المطبخ	Aked el Matbakh.	
No. 60.	عقد صخر	Aked Sakher.	
	عقد صالح بيك	Aked Saleh Beg.	
	عقد متولى	Aked Metuli.	

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 60.—Mahalet Dellal (محلة دلال)	عقد رسول اغا	Aked Russul Agha.	
	عقد كومش دزكين	Aked Gumish Dezkin.	
	عقد علمدار	Aked Alemdar.	
	عقد خرطوم الفيل	Aked Khartum el Fil.	
	قهوة خرطوم الفيل	Kahwet Khartum el Fil.	Coffee house.
No. 61.—Mahalet Jama el Maleh (محلة جامع المالح)	جامع المالح	Jama el Maleh	Mosque.
	حمام المالح	Hamam el Maleh	Bath.
	قهوة المالح	Kahwet el Maleh.	
	عقد صالح اغا	Aked Saleh Aga.	
	عقد قوشچيه	Aked Kushchiyeh.	
	عقد دوربين	Aked Durbiyin.	
	عقد ابوخشيم	Aked Abu Khashim.	
	عقد شيخ إبراهيم إبن نصر الدين	Aked Sheikh Ibrahim Ibn Nasereddin.	
	عقد باب جامع الصغيره	Aked Bab Jama el Seghireh.	
	عقد فرانجي	Aked Franji.	
	عقد كلخان	Aked Gulkhan.	
	عقد سمير	Aked Sumir.	
No. 62.—Mahalet el Mefaraj (محلة المفرج)	قهوة ابو غزال	Kahwet Abu Ghezal..	Coffee house.
	قهوة مبارك	Kahwet Mubarek	Ditto.
	قهوة المفرج	Kahwet el Mefaraj ..	Ditto.
	عقد ابو شبيل	Aked Abu Shebil.	
	عقد احمد حسن	Aked Ahmed Hassan.	
	عقد تعليوانه	Aked Taliwaneh.	
	عقد قره شعبان	Aked Kareh Shaban.	

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 62.—Mahalet el Mefaraj (محلة المفرج)	عقد طونه‌چيه	Aked Tunechiyeh.	
	عقد تقاقيه	Aked Tekakiyeh.	
	عقد مسجد	Aked Musjed.	
	عقد علوش	Aked Alush.	
No. 63.—Mahalet Abu Shubel (محلة ابو شبل)	عقد ابو شيطح	Aked Abu Shiteh.	
	عقد حنون	Aked Henun.	
	عقد اليهود	Aked el Yahud.	
	عقد تورات	Aked Turat.	
	عقد يرغانچيه	Aked Yerghanchiyeh.	
	عقد ابو سيفين	Aked Abu Syfiyin.	
	قهوة ابو سيفين	Kahwet Abu Syfiyin..	Coffee house.
	عقد كور	Aked Kur.	
	قهوة كوره چيه	Kahwet Kurehchiyeh..	Coffee house.
	سوق الصراريج	Suk el Serarij.	Bazar of saddlers.
	سوق المنطفچيه	Suk el Montefchiyeh..	Bazar of the Montafiks.
	سوق الخورده فروشيه	Suk el Khurdeh Feru-shiyeh.....	Bazar.
	سوق الچبوغ چيه	Suk el Chebughchiyeh.	Bazar.
	قهوة الچبوغ چيه	Kahwet el Chebugh-chiyeh	Coffee house.
	خان التوتن	Khan el Tutun	Caravanserai.
	سوق التوتنچيه	Suk el Tutunchiyeh ..	Bazar.
	سوق الثميس	Suk el Thamis	Ditto.
	قهوة زنبور	Kahwet Zambur	Coffee house.
	سوق الطول	Suk el Tul	Bazar.
	خان الرماح	Khan el Remah.....	Caravanserai.

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
	سوق اليورغانچيه	Suk el Yurghanchiyeh.	Bazar.
	سوق السوخه چيه	Suk el Chukhechiyeh .	Ditto.
	سوق الصّياغين	Suk el Syaghyin	Bazar.
	قهوة ملوكى	Kahwet Meluki.....	Coffee house.
	جامع الصياغين	Jama el Syaghyin . ..	Mosque.
	خان الپا چه‌چى	Khan el Pachechi	Caravanserai.
	سوق الزنجيل	Suk el Zenjil	Bazar.
	قهوة السختيان چيه	Kahwet el Sekhtyan-chiyeh	Coffee house.
	قهوة الخفافين	Kahwet el Khefafiyin..	Ditto.
	سوق الخفافين	Suk el Khefafiyin....	Bazar.
	سوق اليمنچيه	Suk el Yamanchiyeh..	Bazar.
	قهوة حاجى وهب	Kahwet Haji Wuheb. .	Coffee house.
	سوق الكبابچيه	Suk el Kebabchiyeh..	Bazar.
	قهوة سلطان حموده	Kahwet Sultan Ha-mudeh.....	Coffee house.
	خان العفص	Khan el Afess	Caravanserai.
	سوق اليهود	Suk el Yahud.....	Bazar.
	سوق الجايف	Suk el Jaiyef.....	Ditto.
	سوق القزازئين	Suk el Kezazeyin	Ditto.
	خان الذهب	Khan el Dhahab	Caravanserai.
	خان البرسيم	Khan el Berissem....	Ditto.
	سوق الطغمه	Suk el Tumgheh	Bazar of stamps.
	قهوة الطغمه	Kahwet el Tumgheh..	Coffee house.
	سوق القز	Suk el Kaz.....	Bazar.
	سوق البزازين	Suk el Bezaziyin	Ditto.

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
	سوق التكيچيه	Suk el Takychiyeh. ..	Bazar.
	خان الزرور	Khan el Zarur	Caravanserai.
	سوق الخياطين	Suk el Khyatiyin	Bazar.
	سوق القيصريه	Suk el Kysseriyeh....	Ditto.
	قهوة القيصريه	Kahwet el Kysseriyeh.	Coffee house.
	خان المعامله چيه	Khan el Maameleh-chiyeh	Caravanserai.
	سوق الضريب	Suk el Durib	Bazar.
	سوق القلوغ	Suk el Kelugh	Bazar.
	خان بكر	Khan Bekir	Caravanserai.
	سوق الدساميل	Suk el Dessamil	Bazar.
	خان الكتان	Khan el Ketan	Caravanserai.
	خان مخزوم	Khan Mekhzum.....	Ditto.
	سوق الاسكچيه	Suk el Askechiyeh ..	Bazar.
	قهوة الاسكچيه	Kahwet el Askechiyeh.	Coffee house.
	خان اللي ايكى	Khan Elli Yeky.....	Caravanserai.
	قهوة القلوغ	Kahwet el Kelugh....	Coffee house.
	خان سلطان حمودة	Khan Sultan Hamudeh.	Caravanserai.
	سوق العريضة	Suk el Arideh	Bazar.
	خان جنى مُراد	Khan Jeni Murad....	Caravanserai.
	خان اليهود	Khan el Yahud	Ditto.
	خان الحياج	Khan el Hyaj.....	Ditto.
	خان احمد اغا	Khan Ahmed Agha ..	Ditto.
	سوق السربرچيه	Suk el Sarirchiyeh ..	Bazar.

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
	خان اندريه حنه	Khan Andrieh Hannah.	Caravanserai.
	خان حاجى محمد بقال	Khan Haji Mohamed Bakal	Ditto.
	قهوة الوقف	Kahwet el Wakef	Coffee house.
	سوق راس القريه	Suk´Ras el Keriyeh ..	Bazar.
	قهوة السقاقى	Kahwet el Sekaki	Coffee house.
	خان الجصّ	Khan el Jess	Caravanserai.
	قهوة حاجى امين	Kahwet Haji Amin ..	Coffee house.
	جامع حاجى امين	Jama Haji Amin	Mosque.

Disposition of the West portion of the Town.

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 1.	جامع الشيخ صندل	Jama el Sheikh Sendel.	Mosque; built in A. H. 1118.* The shops and grain market adjoining are entailed property of this mosque.
No. 2.	جامع خضر الياس	Jama Khidher Elyas..	Mosque.
No. 3.	جامع القيمريه	Jama el Kimeriyeh ..	Mosque; built A. H. 1020.† The rents of a few shops are bequests to this mosque.
No. 4.	تكيه باب الكاضم	Tekiyeh Bab el Kadem.	Tekiyeh of the Bektash Dervishes. A fine cufic inscription much defaced exists here. The date is somewhat imperfect, but about A. H. 333.‡

* A. D. 1706. † A. D. 1611. ‡ A. D. 944.

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 5.	جامع شيخ موسى	Jama Sheikh Museh..	Mosque; built A. H. 1228.* It has gardens and brick-kilns as entailed property, besides wells and cultivations.
No. 6.	الوكفه	El Wakefeh	Stand.
No. 7.	محلة الجعفر	Mahalet el Jafer.	Mahaleh, or Mahalet, is a quarter in the town.
No. 8.	محلة دهامش	Mahalet Dehamesh.	
No. 9.	محلة سوق حماده	Mahalet Suk Hamadeh	
No. 10.	محلة خضر الياس تكارته	Mahalet Khidher Elyas Tekarteh.	
No. 11.	محلة الحجاج	Mahalet el Hejaj.	
No. 12.	محلة دهدوانه	Mahalet Dahduaneh.	
No. 13.	محلة سوق الجديد	Mahalet Suk el Jedid.	
No. 14.	محلة شيخ صندل	Mahalet Sheikh Ṣendel.	
No. 15.	محلة سوق العجمي	Mahalet Suk el Ajemi.	
No. 16.	محلة الفلحات	Mahalet el Felahat.	
No. 17.	محلة المشاهده	Mahalet el Meshahadeh	
No. 18.	محلة علوه	Mahalet Alueh.	
No. 19.	محلة الكريمات	Mahalet el Kerimat.	
No. 20.	محلة راس الجسر	Mahalet Ras el Jisser.	
No. 21.	محلة شواكه	Mahalet Shuakeh.....	Quarter.
No. 22.	منصور الحلج	Mansur el Helaj.	Ditto.
No. 23.	شيخ معروف	Sheikh Maruf	Tomb of Sheikh Maruf; built A. H. 612.† Part of the Dijeil canal is entailed property of this shrine.

* A. D. 1813.

† A. D. 1215.

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
No. 24.	ستة زبيدة	Settah Zubeideh	Tomb of the Lady Zubeideh, wife of Harun ar Rashid, A.H. 212;* built by Abdallah al Mamun, and frequently restored.
No. 25.	شيخ داؤد	Sheikh Daud.	
	جامع الحنان	Jama el Henan	Mosque; built A. H. 1108.†
	جامع ابن عطاء	Jama Ibn Ata (*a*)....	Mosque; built A. H. 1223.‡
	جامع ستة نفيسة	Jama Settah Nefisseh..	Mosque; built A. H. 1113.§
	مسجد علوى الحله	Musjed Aluehel Hilleh.	
	مسجد باب السيف	Musjed Bab el Sif.	
	مسجد راس الجسر	Musjed Ras el Jisser.	
	مسجد البيجات	Musjed el Abijat.	Musjeds are small houses for prayer, and are held as distinct from the Jamas or mosques, because the Friday prayers, or regular congregations, do not assemble in them.
	مسجد سوق العجمى	Musjed Suk el Ajemi.	
	مسجد سليمان القنام	Musjed Suleyman el Fenam.	
	مسجد بيت الشواف	Musjed Beit el Shuaf.	
	مسجد محمود صوزة	Musjed Mahmud Suzeh	
	مسجد ابن عطاء	Musjed Ibn Ata.	
	مسجد ابن اعبيد	Musjed Ibn Aabid.	
	مسجد حمام شامى	Musjed Hamam Shami.	
	مسجد بمحلة الجبور	Musjed bi Mahalet el Jebur.	
	مسجد سوق حمادة	Musjed Suk Hamadeh.	
	مسجد حاجى امين	Musjed Haji Amin.	
	مسجد حاجى محمد	Musjed Haji Mohamed.	

* A. D. 827. † A. D. 1696. ‡ A. D. 1808. § A. D. 1701.

Quarter.	Public Buildings and Groups of Houses included within.		Remarks.
	مسجد مُلا نعمان	Musjed Mulla Naman.	Musjeds are small houses for prayer, and are held as distinct from the Jamas or mosques, because the Friday prayers, or regular congregations, do not assemble in them.
	مسجد شیخ علی جبوری	Musjed Sheikh Ali Jaburi.	
	مسجد مُلا شریف	Musjed Mulla Sherif.	
	مسجد ثانی	Musjed Sani (*Tsani*).	
	مسجد مُلا کاضم	Musjed Mulla Kadem.	
	مسجد حاجی عبدالله	Musjed Haji Abdallah.	
	حمام شامی	Hamam Shami	Bath.
	حمام الجسر	Hamam el Jisser	Ditto.
	حمام ایتیم	Hamam Aitim	Ditto.

What with open spaces, gardens, enclosures, and ruins, a little more than the third part of the *enceinte* of Baghdad may be said to be built upon at the present day. It contains a mixed population under sixty thousand, whereas its platform would suffice to hold four times the number. Nowhere, perhaps, in the world can be seen to advantage so great an admixture of the various races of men; and in no city can be heard, I think, such a diversity of speech. The Turkish population, as the governing class, occupy generally the northern quarters of the city, while over the rest are disposed the mercantile classes of Mahomedans; the Christians and the Jews having separate quarters in the central parts of the town. Nor, perhaps, can we witness such toleration among the masses as Baghdad exhibits. The Jew and the Christian could always be seen here on horseback; while, in other places, their co-religionists were compelled either to pace on foot, or to bestride an ass, as a mark of inferior condition. They enjoy indeed a rare freedom here, in comparison with other Mahomedan towns. The Jews are the principal Serafs, and are confidentially employed by all classes in the money transactions of the place. The fifteen thousand families computed as within the city may be divided as follows:—Turks, or of Turkish descent, families, four thousand; Persians, or of Persian descent, families, two thousand five hundred; Jewish families, two thousand five hundred; Christian families, one thousand; Kurdish families, one thousand; Arab families, two thousand; nomade Arabs and strangers, temporarily located, two thousand.

The vernacular tongue in use in the city is an impure Arabic, extremely corrupted among the Christian population, perhaps the most ignorant of a singularly ignorant community of men, such as is found within the walls of Baghdad. Turkish and Persian are, however, commonly spoken by the mercantile classes, as well as Arabic; and among the labouring classes and porters may be heard Kurdish, Luri, and Chaldean. Hebrew is known only to a few Jewish families, and Armenian is sparingly heard beyond the orthodox sects of that ancient race; those of the Romish faith speak generally the Arabic of the town. At the table of the British Resident, when English, French, Russians, and Indians have met together, a medley of thirteen languages has been counted in one room.

The climate of Baghdad, generally speaking, may be deemed a healthy one. It is true that in periods of anarchy and mal-administration, when the neglected dikes admit of the water inundating the country, epidemics prevail during the season of the greatest heat, from May to October. These, however, yield readily to the usual remedies, and those who are discreet, by taking medicine in time, may generally I think, avoid attack altogether; and there is no denying but that neglect renders these epidemic fevers malignant and fatal. The great heats are at times almost insupportable; and yet experience has shown, the least sickness prevails in the hotter summers; while, on the other hand, sickness is rife when the heat from the barren soil is tempered by the presence of inundations, which, indeed, give rise to the infecting miasma. From October to May there is perhaps no finer climate in the world; cold, yet mild and invigorating, it cannot be excelled. The temperate character of its air was always esteemed. The ancient Persian kings, indeed, preferred the plains bordering on the Tigris to any other winter residence. To the Anglo-Indian invalid they offer a retreat at this period; and, whether he be sportsman or scholar, he will derive amusement and instruction from attractions that will be found ample and inseparable from the soil. This description of the climate does not extend to the lower country beyond one hundred miles south of the city. The fevers prevailing in the summers of that region are fatal in a high degree. The thermometer usually stands in the winter about 50°, but in the mornings may be seen as low as 26°, when the air is keen and much felt by natives of India, who, as pilgrims here, are for the most part but lightly clothed. In the summer it ranges from 90° to 117°, but this latter standard is rare; usually at the hottest time of day it is about 107°. The barometer at this time averages 29° 56′; while in the winter, except when south winds prevail, it remains at 30° 10′. South winds are very oppressive, and are usually accompanied by much dust. They last generally three

days, terminate in squalls and rain, and are succeeded by fresh north-westers, with a brilliant sky and an atmosphere as deliciously pure as it is exhilarating.

As connected with the city I now append the following tabulated form of grains and other edibles, usually procurable in the Baghdad markets. These have been drawn up carefully by Mr. Richard Rogers, clerk in charge of the steam vessel Comet, whose local knowledge in this respect can be fully relied upon. Added to this is a comparative scale of weights and measures with those of English denominations, and a table of the currency and rates in the Baghdad bazars. It must be borne in mind, that the prices, as well as the rates of exchange, fluctuate at times considerably, at others very little. This is owing to the position of Baghdad itself as an isolated city dependent greatly upon neighbouring localities, from which it is separated by desert tracts, where caravans are liable to plunder, and where, from general disorder in the country, supplies may be for a time either entirely cut off, or so restricted as to influence prices in a material degree. It will be seen, however, that, as far as articles forming the ordinary necessaries of life are concerned, living is cheap enough. Supplies in general are abundant, and perhaps sufficient for the support of double its population. Ordinarily there is a plentiful store in the granaries of the city, and in periods of increased demand it can be easily procured from the great grain tracts around Mosul and the two Zabs, by water carriage down the Tigris.

A Price Current of Provisions procurable in the Bazars of Baghdad, with their estimated Maximum and Minimum Prices during the Year.

Articles.		Per	Rate in Riege Piastres.	Remarks.
طعام	PROVISIONS.			
لحم البقر	Beef	4 lbs.	6 to 10	Buffalo or Camel meat ranges from 6 to 8 R. P. per 4 lbs.
بقصمات	Biscuit or Rusk	24 lbs.	55 to 60	
خبز	Bread, fresh	Pound.	3	
بقرة صغيرة	Bullocks, small	Each.	300 to 600	
زبد	Butter	4 lbs.	60 to 70	
عجل	Calves	Each.	250 to 400	
موم	Candles, wax	Pound.	50	
قهوة	Coffee	18 lbs.	200 to 260	
كارى	Curry stuff	Pound.	15	
قيمر	Cream	4 lbs.	24 to 30	
جبن	Cheese, country	Do.	12 to 20	
بط	Ducks, tame or wild	Each.	10 to 15	
بيض	Eggs	Dozen.	6	
طحين	Flour	24 lbs.	46 to 50	
دجاج	Fowls	Dozen.	100 to 120	
سمك	Fish, fresh mullet	4 lbs.	3 to 6	
وزّ	Geese, tame or wild	Each.	30 to 40	
دهن	Ghee	24 lbs.	180 to 235	
جمل	Camels for slaughter	Each.	400 to 1000	
غزالان	Gazelles	Each.	60 to 120	
خردل	Mustard	Pound.	10	
لحم غنم	Mutton	Do.	4 to 5	
حليب	Milk	24 lbs.	30 to 50	
حمام	Pigeons	Each.	3 to 6	

	Articles.	Per	Rate in Riege Piastres.	Remarks.
درّاج	Partridges	Each	3 to 5	
تمّن	Rice	24 lbs.	46 to 70	
ملح	Salt	Do.	12	
خرفان	Sheep	Each	100 to 170	
شكر	Sugar	18 lbs.	150 to 190	
شحم بطن	Suet	4 lbs.	12 to 16	
دبس تمر	Treacle, date	24 lbs.	60 to 90	
چاي ورق	Tea	Pound.	60 to 120	
مخضّر	Vegetables of sorts	24 H.*	24 to 30	
خلّ	Vinegar	Gallon.	10	
جاموسه	Buffalo for slaughter	Each	600 to 1200	
شراب فرنگي	WINES, &c.			
براندي	Brandy	Dozen.	600 to 1200	Only procurable occasionally, & the supply always limited.
بيره	Beer	Do.	360 to 490	
شمپين	Champagne	Do.	1200 to 1600	
شيري	Sherry	Do.	600 to 1200	
عرق تمر	Spirits, country Arrack	Gallon.	100 to 140	
شراب شيراز	Wines, Persian	Dozen.	600 to 720	
شراب كركون	Do. country	Do.	120 to 140	
ميوه جديد	FRUITS, FRESH.			
تفاح	Apples	4 H.	6 to 10	
مشمش	Apricots	Do.	4 to 6	
اطرنج	Citrons	100	100 to 200	
تين	Figs	4 lbs.	4 to 6	
عنب	Grapes	Do.	6 to 12	
تومي حلوا	Limes, sweet	Do.	2 to 5	
تومي حامض	Do. sour	Do.	3 to 8	
ليمون	Lemons	Do.	12 to 20	
تكي الشام	Mulberries, black	Do.	12 to 20	
تكي عراق	Do. white	Do.	4 to 6	

* Hoogeh.

	Articles.	Per	Rate in Riege Piastres.		Remarks.
دقی	Melons, Water.....	24 lbs..	5 to	12	
بطیخ	Do. Musk	Do...	12 to	20	
خوخ	Nectarines	4 lbs..	4 to	8	
پرتقال	Oranges, sweet.....	100	50 to	100	
نارنج	Do. Seville.....	100	15 to	25	
عرصوط	Pears	4 lbs..	20 to	30	
عنجاص	Plums of sorts	Do...	8 to	12	
خوخ	Peaches.....	Do...	4 to	8	
رمان	Pomegranates	24 lbs..	24 to	48	
اسفرجل	Quinces.....	4 lbs..	6 to	15	
تمرنخل	Dates, fresh.....	24 lbs..	24 to	36	
خاکمه یابسه	FRUITS, DRY.				
نفوع	Apricots	4 lbs..	16 to	20	
لوز	Almonds	Do...	40 to	60	
کتانه	Chestnuts	Do...	30 to	40	
اذرشك	Currants	Do...	30 to	50	
تمریابس	Dates, dry	Do...	6 to	10	
	Hazel Nuts.....	Do...	30 to	40	
فستق	Pistachio Nuts.....	Do...	40 to	50	
بخاره	Plums	Do...	40 to	50	
زبیب	Raisins	Do...	10 to	14	
جوز	Walnuts	100	4 to	8	
خوخ یابس	Peaches.....	4 lbs..	16 to	20	
مخضّر	VEGETABLES.				
خرشف	Artichokes.....	4 lbs..	8 to	16	
بادنجان	Brinjalls	Do...	1 to	5	
باقلا	Beans, common	Do...	2 to	5	
لوبیه	Do. French	Do...	8 to	16	
بانیه	Bendies	Do...	1 to	5	
بربین	Broccoli.....	Each..	4 to	8	Scarce.

	Articles.	Per	Rate in Riege Piastres.	Remarks.
شوندر	Beetroot.....	4 lbs ..	1 to 5	
لهانه	Cabbages.....	Each..	5 to 7	
جزر	Carrots	4 lbs ..	3 to 6	
	Celery	Do...	8 to 16	
رشاد	Cress, Garden.....	Do...	4 to 6	
خيار	Cucumbers	Do...	1 to 5	
فلفل داده	Chillies, Green	Do...	24 to 40	
قنبيط	Cauliflowers	Each..	5 to 8	Scarce. *
حسّ	Lettuces	Dozen .	6 to 10	
افطّر	Mushrooms	4 lbs..	Uncertain.	
بصل	Onions	Do...	2 to 6	
تفاح الارض	Potatoes, Persian	Do...	20 to 60	Supply seasonal and limited.
شجر	Pumpkins	Do...	1 to 4	
فجل	Radishes	Do...	4 to 6	
اسفيناج	Spinach	Do...	2 to 6	
شلغم	Turnips	Do...	1 to 4	
بان نجان فرنگی	Tomatoes	Do...	6 to 10	
كمات	Truffles	Do...	8 to 30	
حبوب	GRAINS.			
شعير	Barley	120 lbs.	40 to 80	
عدل	Dholl	Do...	120 to 260	
حنطه	Gram	Do...	110 to 150	
ازره	Wheat	Do...	100 to 180	
	Millet & Indian Corn.	Do...	50 to 80	
مجموع	SUNDRIES.			
فحم	Charcoal	80 lbs..	40 to 50	
حطب	Firewood, Green	2560 H.	300 to 500	
شيرج	Oil, common	24 lbs .	160 to 210	
صابون شام	Soap, Damascus, fine.	3 lbs ..	35 to 50	
توتن كردي و عجمي	Tobacco, Country and Persian	Do...	30 to 50	

Scale of Daily Wages paid to Artificers, Tradesmen, Labourers, &c. at Baghdad.

	Class.	Rate per day in Riege Piastres.	Remarks.
طابوقچي	Brick-maker, Master	25	
خلفه	Assistant	20	
خلفه	2nd Assistant ...	10	
معمار	Bricklayers, Master	30	
خلفه	Assistant	25	
مناوش	2nd Assistant ...	20	
هزار	3rd Assistant ...	15	
مزّار	Diggers	12	
مقدمچي	Basket Carriers .	8	
طيّان	Boys	6	
مطوق	Builders of mud walls, for every 150 feet long and 1 foot high.	80	
صحّاف	Book Binders, Master	25	
خلفه	Assistant	20	
حدّاد	Blacksmiths, Master.....	13	
خلفه	Assistant.....	10	
خلفه اصغر	2nd Assistant...	7	
صفّار	Brazier, Master	25	
خلفه	Assistant.....	20	
صانع	Boys, from	7 to 15	
قصّاب	Butchers, Master.....	30	
صلّاخ	Assistant.....	20	
صانع	Boys, from	7 to 10	
نداف الصوف	Beaters of Wool	15	
نداف القطن	Cotton	15	
عامل الزنابيل	Basket-makers, common	10 to 15	

	Class.	Rate per day in Riege Piastres.	Remarks.
دلوچی وقربچی	Bucket and Water Skin makers.	20	
مزیّن	Barber	10 to 15	
خبّاز	Baker	20 to 25	
دلّالین	Brokers, General, Commission.	½ per Cent.	
دلّال خیل	Do. For each horse or donkey sold.	20	
نجّارباشی	Carpenters, Master	30	
خلفه	Assistant	25	
خلفه	2nd Assistant....	20	
خلفه	3rd Assistant.....	15	
خلفه	4th Assistant	10	
صانع	Boy.....	5	
صفّار	Coppersmith, Master	13	
خلفه	Assistant	10	
خلفه	2nd Assistant ..	7	
مومچی	Candle-maker	25	
چیّال	Corn Weigher.....	15 to 20	
نقاش الصیاغه	Designers-for Silver work....	40	
صبّاغ	Dyers, Master.....	25	
خلفه	Assistant.....	20	
خلفه	2nd Assistant.....	15	
سرد چی	Date-Crate-maker, Master	30	Native Bedstead.
خلفه	Assistant....	25	
خلفه	2nd Assistant.	20	
مقطّر	Distillers of Native Spirits ...	15 to 20	
غسّال	Dhobie, per 100 pieces.....	300	
مینچی	Enameller	40	
حفار امهار	Engraver of Seals.....	40	
بیطار	Farrier	15	

	Class.	Rate per day in Riege Piastres.	Remarks.
صانع	Goldsmiths, Master	50	
خلفه	Assistant	30	
خلفه	2nd Assistant....	20	
صانع	Boys, from	7 to 10	
جواهری	Gem Polisher	40	
دقاق	Glazer of Piece Goods.....	20 to 30	
عینچی فی الجام	Glazier, or Window-maker...	20	
شیشچی	Glass-maker	20 to 30	
مرشم	Gilder on Steel	50	
قندغچی تفك	Gun Stock maker.....	20 to 30	
چغمغچی	Gun Lock repairer, Master ...	20 to 30	
خلفه	Boy.....	10	
قلجي	Grinder	35 to 40	
بستانی	Gardeners	10 to 13	
فلاح	Labourers.....	7	
صانع	Boys	2 to 3	
حمامیل	Hamalls.....	15	
حصرچی	Mat-maker of Mendallee mats	20	
عمال بواری	of reed mats	10	
مدرچی	Millstone Sharpener.....	15 to 20	
خیّال تفاك	Musketeers, or Guards with Horses	15	
سقمانی	on foot.....	10	
بزارچی شبرج	Oil-maker	25	
نقاش البناء	Painter, Master.....	30	
خلفه	Assistant.....	20	
بصّام	Printer, Calico, Master	30	
خلفه	Assistant	15	
خلفه اصغر	2nd Assistant.	10	
صانع	Boys	2 to 7	

	Class.	Rate per day in Riege Piastres.	Remarks.
كواز الفخّار	Potter	15 to 25	
مطفچى	Rope-maker	10 to 15	
سراج	Saddler	25	
پلنچى	Pack Saddle maker	25	
تكمچى	Solderer	20	
قزّاز	Silk Cord maker	20	
پمنچى	Shoe-makers, Master	30	
خلفه	Assistant	25	
خلفه اصغر	2nd Assistant	20	
صانع	Boys, from	5 to 10	
صابونچى	Soap-maker	25	
غزّال الصوف	Spinners of Wool	15	
غازول قطن	Cotton	15	
شكرچى	Sweetmeat-maker, Master	30	
خلفه	Assistant	20	
صانع	2nd Assist.	15	
برنوطچى	Snuff-maker	15 to 20	
مرمرچى	Stone-cutter	25 to 30	
صيقل	Sword-maker, Master	40	
خلفه	Assistant	20	
صانع	Boy	10	
مزرقچى	Spear-shaft-maker	20 to 30	
چادرچى	Tent-makers, Master	30 to 35	
خلفه	Assistant	20	
عكام	Tent Pitcher, Master	15	
خلفه	Assistant	10	
دباغ	Tinner	15 to 20	
خياط أستاد	Tailors, Master	40	
خلفه	Assistant	15 to 25	
دباغ	Tanners, Master	25	

	Class.	Rate per day in Riege Piastres.	Remarks.
خلفه	Tanners, Assistant.....	20	
صانع	Boys.....	10	
چراخ	Turner, Wood.....	20	
حكاك	Amber.....	30	
حكاك مسج	Beads.....	40	
خرام مزاد توتن	Tobacco-packer.....	20	
حايك	Weavers of Cotton or Wool,		
	1st Class...	25	
خلفه	2nd Class..	20	
صانع	Boys, from..	10 to 15	
شعرباف	of Silk, Master	30	
خلفه	Assistant...	20 to 25	
صانع	Boys, from.	5 to 10	
داولجى	Waterman, with horse	30	
سقا على حمار	with donkey.....	25	
سقاراجل	on foot	15	
نواطي	Watchman.....	10	
پاصوان	Bazar	5	Per night.
قهوه چى مال قهوه خانه	Waiters, Coffee House, Master.	21	
صانع	Boy...	10	
قليانچى	Ralyeon-maker.	10	
حمام چى	Bath, Master.....	30	
خلفه	Assistant	20	
دلاك	Delall.....	25	
صانع	Servant.....	15	
جدام البيت	Domestic Servants.		
وكيل خرج	Head Servants, per month....	630	
فراش	2nd Class .... do.....	525	
طباخ	3rd Class..... do.....	315 to 420	
صانع	Boys..... do.....	250	

	Class.	Rate per day in Riege Piastres.	Remarks.
سايس	Grooms . . . per month	300 to 400	
خدام الحرم	Female servants, do	210 to 315	
كروت الدّروب	LAND CARRIAGE.		
كروة الاياعر	Camels	15 to 20	
كروة حمير البيض	Donkeys, white	15	
كروة الحمير	black	10	
كروة الخيل	Horses	30 to 40	
كروة البغل	Mules	25 to 30	
كروة الشط	WATER CARRIAGE.		
كروة الماشوه	Boats, Basreh, large	200 to 300	Including trackers and food for men.
كروة البوت	small	150 to 200	
كروة سفينه قياريه	Bitumen	100	
كروة قفه	Goofa, with two men	30	
	without men	10	

GENERAL REMARK.—It is understood that for the rates specified here the individuals or articles hired are to be throughout the time at the service of the party hiring them.

Table showing the relative proportions which the authorised Weights and Measures in use in the Bazars of Baghdad bear to English Standard Weights and Measures. In making these conversions an average of each denomination of Weight or Measure was struck, in consequence of the difficulty experienced in obtaining a true scale in Baghdad, though those selected for the test all bore the Government marks.

BAGHALEE WEIGHT (وزن بقالى).—By this weight the retail dealers and shopkeepers sell meat, bread, vegetables, dairy produce, and all articles for household consumption.

وقيه بقالي 1 Wakiyeh . . . . . = 1 lb.
حقه بقالي 4 Wakiyehs = 1 Hoogeh . . . . . = 4 lbs.

من بقالی 6 Hoogehs = 1 Mun or Maund..... = 24 lbs.
وزنه بقالی 4 Muns or Maunds = 1 Wuzneh ..... = 96 „

N.B.—The Wuzneh in use at the Khan el Meyweh for the sale of fruits and ghee only to wholesale purchasers contains 5 maunds Baghalee, equal to 120 lbs. The wholesale dealers and retailers subsequently dispose of these articles by the Baghalee Wuzneh of 96 lbs.

Attaree Weight (وزن عطاری).—By this weight all groceries, medicines, spices, tobacco, sweetmeats, candles, tar, rope, soap, dammer, powder, shot, &c. are sold. When selling these articles the manufacturer or importer uses the Guban or Steelyard Attaree, a maund of which is equal to 20 lbs.; the wholesale dealer, a maund equal to 19 lbs.; and the petty dealer, or shopkeeper, one equal to 18 lbs.; as the latter weight may be considered the standard maund from its universal use, its relative proportions are as follows :—

وقیه عطاری 1 Wakiyeh ..... = 12 ozs.
حقه عطاری 4 Wakiyehs = 1 Hoogeh ..... = 3 lbs.
من عطاری 6 Hoogehs = 1 Mun or Maund.. = 18 „
وزنه عطاری 30 Muns or Maunds = 1 Kantar.... = 540 „

N.B.—The Constantinople Kantar contains 7 Guban or Steelyard Attaree Maunds of 20 lbs. each, and therefore equals 140 lbs.

Alwa Weight (وزن علوه).—By this weight the retail dealers and shopkeepers make their purchases of grain, vegetables, and wood from the wholesale dealers.

(وزنه علوه) 5 Muns or Maunds and 2 Hoogehs Baghalee = 1 Wuzneh Alwa, or 128 lbs.
(تغار علوه) 20 Wuznehs Alwa = 1 Taghar Alwa, or 2,560 lbs.

Jewellers' Weight (وزن الجواهر) for the sale and purchase of gold, silver, and pearls. The latter are, however, sometimes bargained for by the Persian Miscall, which only equals 22 Hubbs (حبه). Precious stones are disposed of by the Carat (قیراط).

24 Hubbs = 1 Miscall (مثقال), or 72·28125 grains Troy.
100 Miscalls = 1 Chickee (چکی), or 7228·125 „

Drapers' Measure (ذراع الخام والچوخ).—The Aleppo Draa (ذراع حلب), or yard, equals 27 inches, and is used for the sale of cloth, silk, linen, and cotton goods imported into Baghdad. The Baghdad Draa (ذراع بغداد), or yard, equals 32 inches, and is used for the sale of bleached and unbleached shirtings, country linen, linen the manufacture of Trebizond or Erzeroum, as well as all descriptions of textile goods made in the country. The Persian Draa Shah (ذراع شاه), or yard, equals 40 inches, and is used when selling goods to Persians.

List of Coins current in Baghdad (اجناس الدراهم الدى موجوده فى سوق بغداد).

The whole of those mentioned in the following list are current in the Pachalic, but that with the greatest circulation is the Mahomed Shah Keran; the next most important in local transactions is the Shamie, especially with the Arab tribes to the south of Baghdad, who prefer it to every other sort of money. In reducing these coins to their equivalent in Rupees, the Riege Piastre has been taken as the standard at the rate of 21 per Mahomed Shah Keran, and 209 M. S. Kerans per 100 Rs. in consequence of its being that by which the value of the others is computed. All accounts are however, kept by the native merchants in Kammeri Beshlics.

Names.		Value in Riege Piastres.	Euqal to Rupees			Remarks.
فلوس ذهب توركي	TURKISH GOLD COINS.					
ليره ابوخمس نمازيات	Lirah, or Majeedi ..	430	9	12	8·820	
جهادى	Jehadi.....	340	7	11	11·160	
نصف جهادى	½ Jehadi	120	2	11	8·880	
اسلا مبول عتيق	Stamboul, Attick...	150	3	6	8·100	
اسلا مبول مصطفى	Mustapha	140	3	3	0·360	
اسلا مبول سليمى	Selim....	120	2	11	8·880	
غازي عتيق	Gazee Attick	95	2	2	7·530	
غازي خيرى	new or Khayri	84	1	14	7·416	
نصف غازي خيرى	½ Gazee, new.....	42	..	15	3·708	
ربع غازي خيرى	¼ new	21	..	7	7·854	
نصف غازي عتيق	½ old	47½	1	1	3·765	
عادلى مقره	Adelli Makerer	80	1	13	1·920	
عادلى صايغ	Saigh	70	1	9	6·180	
ربعيه مزنجله	Rubeyeh Mazunjie .	39	..	14	2·580	
ربعيه ساده	Common .	38	..	13	10·212	
مصر مصطفى	Misr el Mustapha ..	120	2	11	8·880	Egyptian Turkish.
مصر سليمى	Selim.....	105	2	6	3·270	Egyptian Turkish.

Names.		Value in Riege Piastres.	Equal to Rupees			Remarks.
فندق عتيق	Funduck, Attick ...	200	4	8	10·800	Algerian.
فندق جديد	new	160	3	10	3·840	
فلوس فضة تورکی	TURKISH SILVER COINS.					
مجيدی کبير	Majeedi, large.....	80	1	13	1·920	
نصفه	½ do.	40	..	14	6·960	
ربعه	¼ do.	20	..	7	3·480	
مجدی صغير	Majeedi, small	8	..	2	10·992	
قمری بيشلغ	Kammeri Beshlic...	20	..	7	3·480	
سوشی	Shooshi	56	1	4	4·940	
اکلغ	Oglu	45	1	..	4·830	
بيشلغ عتيق	Beshlic, Attick.....	72	1	10	2·928	
شامی	Shamie	34	..	12	4·716	
ممدوحی	Munduhi.	24	..	8	8·976	
نصفه	½ do	12	..	4	4·488	
ربعه	¼ do	6	..	2	2·244	
ناقشلی	Nakushli, old.....	11½	..	4	2·301	
چرخی	Cherkhli	9¼	..	3	4·459	Coined at Baghdad.
فلوس خرده	SMALL SILVER PIECES.					
	Under the general name of Khurda, of four, two, and one piastre each.					
فلوس	COPPER.					
	Fluce, a small coin, which has lately varied from 4 to 16 per Riege pias-					

Names.		Value in Riege Piastres.	Equal to Rupees			Remarks.
	tre; at present 336 are equal to a Keran.					
فلوس ذهب فرنگستان	FOREIGN GOLD COINS.					
دبلون	Dubloon	1600	36	7	2·400	
ليرهٔ انگريزی	English Sovereign.	450	10	4	0·300	
همهٔ يادروس	Russian Imperial ..	370	8	6	10·380	
تومان عجم	Persian Tomaun...	208	4	11	9·792	
مجر	Medjar	212	4	13	3·288	Belgian.
يولاز	Yeldoos	225	5	2	10·150	Venetian.
سورتی	Soorti	200	4	8	10·800	
فلوس فضهٔ فرنگستان	FOREIGN SILVER COINS.					
ريال	Spanish Dollar.....	99				
ابوطوب	French 5-Franc piece	94				
ابولطخه	German Crown....	94				
مناط	Manoot	70				Russian.
نصفه	½ do	35				
ربع مناط	¼ do	17½	..	6	3·451	Russian.
خمسه	⅕ do	14	..	5	1·236	
قران محمد شاه	Mahomed Shah Keran	21	..	7	7·854	Persian.
طنگير	Tungeer	17	..	6	2·358	Austrian.

General Remarks applicable to the Province.

Baghdad undoubtedly occupies a position which, geographically and politically considered, is an advantageous one. The existence of the present city for so long a time, and the remains of older and yet more celebrated capitals everywhere around its present site, confirm this in every respect. Ocular proofs too, on every hand, still point out the superior condition of its province in former ages, and these remnants of its prosperity should be the landmarks to guide a good Government in working it at any future time. I allude, of course, to its dried-up canals. These, originally drawn from the two great rivers, Euphrates and Tigris, radiate in every direction both over Mesopotamia and over the tracts bordering to the east and west of either river; while the vast plains themselves which they formerly irrigated lie deserted on either hand, showing that history has neither magnified its resources nor drawn too highly coloured a picture of its flourishing state. Its present degradation can be accounted for in few words; for, though it maintained its character under the vigorous government of the earlier Khalifs, there can be no doubt, deterioration took place with the Mahomedan conquest. The Arabs, indeed, acquired it from the Sassanian monarchs in a healthy condition, and all that can be said is that for a time they did not permit it to decay. The character of that people, and of all the races which have subsequently held it, has been, however, either actively or passively destructive, for the apathy of the Ottoman rulers must be classed under the latter head. So long as they hold it, indeed, we must never look for its recovery, though there are not wanting enlightened Turks who lament its condition, and who are ever ready to propose new plans for its amelioration and progressive improvement. Were they in earnest even, we might still despair of success, from their want of means, either in money or in the requisite skill.

At the present time the Pachalic of Baghdad extends from the northern shores of the Persian Gulf along the Euphrates river as far upward as Anah, where the Aleppo districts commence. From thence a line drawn across Mesopotamia to the Hamrin range of hills (where it crosses the Tigris), and led eastward so as to include the province of Sulimaniyeh in Kurdistan, bounds it to the north, its eastern limit being then defined by the line of the Shirwan and Diyaleh rivers as far as Khanakin, whence it skirts the foot of the Zagros, including the great plains as far as the Kerkha river west of Hawizeh, and thence to the angle formed by the meeting of the Shat al Arab and Mahomerah streams. This is a large and profusely-watered arable tract of country

ranging over nearly five degrees of latitude and longitude, enclosing an area of available soil, which I compute at fifty thousand square miles.

With the exception of Baghdad itself, there is scarcely a fixed abode deserving the name of town, though Basreh, Karneh, Semaweh, Hilleh, Musseyb, Hit, Anah, Tekrit, Samara, Sulimaniyeh, Khanakin, Mendalli, Badrai, and Jessan are designated with the title. These are, however, the principal spots where communities of men in this province dwell within walls, though there are other villages and petty hamlets of mud construction on the Tigris and its tributaries north of Baghdad, as well as on the line of the Euphrates south of Hilleh. On the course of the Tigris and its arms south of the capital, if we except the miserable hamlet called Beled al Hye, on the Hye river, there is not a fixed abode. These great plains, in fact, are the wandering places of the nomades whose various tribes give so much trouble to the Government, and may be said to exist regardless of all laws but those which are conventional among themselves.

The most powerful of these tribes are the Montafik, located between Semaweh and Basreh, and whose authority extends nominally to the Tigris south-west of the Hye and south of the Hud rivers; the Beni Laam, who occupy the tract east of the Tigris, from Kut al Amareh to the Hud river and the Mesopotamian side of the Tigris south-eastward of the Hye; the Zobeide, who range between the Tigris and Euphrates north of the Hye, as far as the Saklawiyeh canal to the west-north-west of Baghdad; and the Shammar Togeh and Deffafeh, having their habitat in the great plains east of the Tigris and south of the Diyaleh, as far southwards as Kut al Amareh. In these tribes are comprehended many powerful families, but in the present brief report I have no time to do more than name those who are merely independent of the governing chiefs, and very often at open war with them; these are the Al bu Mahomed, occupying the marshes north of Karneh, and the banks of the Tigris as far as the Hud stream. Among Arabs they are in no estimation, being considered of an impure stock; and their occupation, as mere buffalo proprietors and dwellers in reed huts, further degrades them in the eyes of those who boast of pure blood, and the profession of a creed which holds "border theft and high treason" as the greatest accomplishments in man; though in these respects the Al bu Mahomed are not deficient, and are even powerful enough, screened as they are in fens and marshes, to beard the more aristocratical hordes who contemn them, and who will not give them their daughters in marriage, though they will ally themselves with the girls of their tribe. These are esteemed for their beauty and their "salt." It must be confessed, however, that the Al bu Mahomed are a despicable set, neither courteous nor brave, but, when strong, capable of committing every

villainy and theft for the least possible gain, or even out of pure mischief. They are comparatively rich in the Arab acceptation of the term, have good fire-arms, and move about in light boats called Mashoofs, which they handle admirably, and are the terror of those who trade by water, from their exactions and cruelty, if denied. To coerce them is difficult, owing to their position, as, when threatened, they betake themselves to the marshes, and lie *perdu* among the high jungles of matted reeds, where, in the creeks and mud, they are quite at home. The Ahl Jezair, inhabiting the marshy tracts of the Euphrates, are much the same in mode of life, and equally formidable in rebellion; but, on the contrary, they are more peaceably disposed, bear a higher character for Arab virtues, and, if not oppressed, are amenable to the authority of the chiefs. I have dwelt longer on these tribes than I intended, but they differ from all others in this region, and a longer notice is necessary to comprehend their characters.

A sketch of the Arab tribes, containing information relative to resources, &c., so far as my knowledge of them extends with any certainty, accompanies this paper. To sum up generally on this head, owing to the nomade habits, I must add, they are one and all but little under the control of the Turkish Government. It is true, that a sort of tacit understanding exists between them and the authorities, that, so long as the revenue at which the tribe is assessed is paid, they are to suffer no molestation. This assessment takes place annually, but much difficulty is experienced before the sum is fully paid up, the object of the Arab being to show he is really too poor, and that of the Government to obtain, if well-paid in one year, an increase of tribute in the next. Thus both parties fall out, are for the most part always at odds, if not at open war. Too weak to coerce them efficiently, the Government employs the usual weapons of the feeble, those of exciting party against party. Factions are thus raised in the tribes, the much-coveted Sheikhships are sold, as it were, to the highest bidders, and a constant rivalry exists, fomented by the Government as an element to neutralize the combinations and rebellions so frequent in all ages among these singularly constituted people. It is this system, however, which has impoverished both the country and people.

The general character and habits of the Arab tribes, inhabiting the region of which Baghdad is the capital, are much the same, and are exercised at all times without material distinctions so far as the public (that is, those not immediately of their own clan) is concerned. Essentially the Arab is the foe of his fellow-man, though he is not without a few redeeming qualities. In his domestic life he indulges in none of the revolting vices of the towns, and, contrary to received opinion, he is averse to shedding blood except in retaliation for blood shed by others,

This indeed is his law, and, curious enough, one that frequently stays his hand from murder, for fear of the consequences to himself and his family. "Blood for blood," indeed, has a terrible signification in his mind, for it renders him an outcast from his tribe, while he is in hourly expectation of an avenging hand. *When at peace* he is mild, courteous, and hospitable, tender and even playful occasionally, though the usual gravity of his manner would belie it. Much of this gravity is, however, assumed, and he can be, and naturally is, both cunning and treacherous. These are indeed the requisite accomplishments for his mode of life. Too proud and ignorant to work, and imbibing ideas from his ancestors, whose lot it was to be cast upon the most sterile and arid region of the globe, he dreams only of enriching himself by plundering others of the gifts which seem to him to be distributed by Nature, so that he should exercise his strength in obtaining them. We should not, therefore, judge him too harshly, for his education *has taught him to steal;* though, like other animals who are obnoxious to communities, there is no denying but he should be expelled, or even exterminated, if untameable. When guided by impulse or necessity, he is passionate, exacting, and deceitful, but not without principle when dealt fairly with by others. Like himself, those dealing with him should ever be suspicious of his intentions, and on the alert to counteract them. Indeed, his own maxim, "*Never take a man for a friend until you have proved him not to be an enemy,*" should be the guide for all, especially strangers, in their intercourse with this people.

On the government of the province, and the *imperium in imperio* system pursued to weaken those who, when united, were able to set up in antagonism to authority, I have already touched. Generally speaking, the form of administration in Baghdad and in the minor towns is based on that of Constantinople, varied only to suit local usages and requirements, when these do not operate badly upon the general law, which, of course is that of the Koran, and the interpretations which learned legislators have awarded to its less intelligible doctrines. The old despotic rule has been closed for some years; and now a council, at which the Pacha usually presides, hears and determines upon all cases. It is a mixed one of Mahomedans and Christians; but the latter in Turkey are not as yet sufficiently independent to do justice to their position when the Mahomedan portion may be biassed by their creed, or by corruption, to pronounce an unjust award. To speak candidly, these nefarious practices in perversion of law and right are less complained of in Baghdad than in most parts of the Turkish empire, and under the more enlightened and honest administration of the present Pacha, Mahomed Reshid, they are less flagrant. He discountenances them, indeed, in his desire to benefit the State and to

raise his fellow Turk in the scale of humanity; a Herculean task certainly, but the attempt is still worthy of commendation. Trained by education in Europe, the present Governor General of Irak has the tact, and perhaps the energy to work a change in this neglected province. Unfortunately he has no seconds. All his subordinates are as ignorant as Turks usually are, and his efforts are, moreover, often paralysed by the dogged obstinacy of their characters. The terrible pressure upon the resources of Turkey by the present war is another drawback to him, for he is called upon to furnish funds to aid in maintaining the struggle, and, with an exhausted exchequer, he must resort to an extra tax upon his people. Complaints are therefore as rife as public improvement is at a stand-still. Too poor to maintain an efficient staff in the various departments, the fiscal arrangements of the province, as well as the police of the towns, are on the most slender and inadequate scale. Frequent and daring robberies, as well as loss of revenue, result from the want of force to levy the one, and the absence of efficient means to check the commission of the other. There is, in fact, no system; and so long as governorships, public lands, custom dues, and the wholesale vending of many staple articles of commerce and food, are held as monopolies by the highest bidders in the State auction, improvement cannot be expected. Every one, of course, works these with the greatest gain and least loss to himself, regardless of the effect upon individuals, and the hideous consequences to the State. The regular army, too, in the province is far too small for its extent in the most peaceable times; indeed, should a serious *emeute* arise in Baghdad itself, the whole force would barely suffice to put it down; and when the lawless character of the tribes around is considered, it is a wonder, indeed, that such a patchwork and threadbare form of government can hold together at all. The secret lies, however, in the opposite elements of the governed body, and the character of the general mind being too slow to work extended mischief; a love of repose and a singular apathy in the people to past, present, or future events, adds to the security, while it acts in an inverse ratio when we think of the energy necessary to effect improvement. On the whole, it may be said that the population is a quiet one. There is little appearance of fanaticism in it. The Jew and the Christian are tolerated, and enjoy immunities which they do not elsewhere possess. The only tax upon them is the Kharaj, or capitation tax, levied annually on males only above the age of fifteen, in the proportion of about ten, five, and two and a half shillings per head. This exempts them from all other demands; and while the poor Mahomedan is often dragged from his wife and children, and made to serve as a soldier, these classes pursue their occupation in quiet in the midst of their families, and yet are not

contented. But was the oriental ever so? No! and, moreover, the Christians and Jews of Turkey, while they are insidiously robbing all classes of their neighbours, are ever ready to whine about oppressions, and, unfortunately, they receive attention from those who are ignorant of their characters and real position in Turkey. I venture to assert, indeed, there is more real ill-will felt towards Jews in Europe than at the present time in Turkey, and the concealed hatred of Roman Catholics and Protestants manifests itself more in those civilised states than it now does in the dominions of the Sultan. We have nothing to compare among Mahomedans with the Spanish denial of sepulture to their fellow Christians. Here every sect of Christians has its churches and cemeteries; and the intercourse between individuals of totally different creeds in the common concerns of life is less restricted and infinitely more courteous than among those professing Christianity under different denominations in Europe. Massacre in this country, solely on account of antagonistic belief, is a rare thing, and, when it does occur, it arises more from its being the first political weapon at hand on the part of the rebellious townspeople against the Government than from any inherent desire to shed Christian blood, and in some cases it has been brought about by the Christian parties themselves being urged to set at defiance the restrictions they had lived under in peace, if not in absolute freedom. The spirit that shows itself occasionally in England and Ireland, as recently evidenced in the Wiseman ebullitions, are but emanations having a similar tendency at heart, though, fortunately for parties, the bit is there firmer in the mouth. They, nevertheless, chafe a great deal.

The law of Tanzimat, or Tansimat, suspending the infliction of capital punishment in the provinces governed by Pachas, has been productive of both good and evil. It was certainly wise and humane to place restrictions on the despotic will of local governors, particularly in the provinces near to Constantinople, but we may question if it was politic to set aside the punishment which held in check the lawless tribes of marauders that wander over a great part of the Turkish empire, at a distance from the capital. In Irak and its towns, the promulgation of this edict was looked upon by the evil as an amnesty for crime, and by the well-disposed with alarm. Revolt, robbery, and murder increased; whereas the amputation of a hand or a foot, the timely impalement or public decapitation of a blood-stained villain (I must speak the truth while deploring the necessity), operated for a long time in these provinces on the public mind, though doubtless there were occasions when the absolute power of the Pacha might be exercised in ridding himself of people less obnoxious to the public than to himself. The law, indeed, has been too sweeping to be attended with

entire good; for we observe offenders, after being convicted of parricide and other hateful murders, escape the death they have fully merited, and when immediate example was required, by long confinement in prison awaiting a decision from Constantinople. For the more distant provinces this law should be modified, so that retributive justice should immediately follow the commission of crime. I will not deny but that long incarceration may be worse than death to the offender, but such a mode of punishment is lost in these countries, where example and precept are understood only through the channel of the eye. Here we might as well imprison a mule to deter others from kicking. The public mind is not yet enlightened enough to understand the motives for the penal refinements of our European codes.

The custom duties of Baghdad have been on the decline for many years, owing to various causes, the chief of which is the opening of the northern roads for the entrance of Russian and English manufactured goods into Persia and Asia Minor by Syria and the Black Sea. Of late, too, the inconveniences and exactions, which the Persian pilgrims experienced from the Turkish officials when visiting the sacred shrines in the neighbourhood of Baghdad, led to a law being passed in Persia prohibiting the pilgrimage. This journey combined the advantages derivable from its sacred character and from the profits of commerce, for each individual became either a trader or a pedlar, according to his means. Persian money thus flowed into Baghdad in a continued stream, and gave impetus to trade. This channel was exhausted by the Shah's order, and disorders in the Pachalic itself further impeded the exertions of its merchants. Under Reshid Pacha's government, however, commerce is again slowly reviving, and the road for devotees having been opened again recently by express permission of the Shah, we may yet see its bazars in activity and its revenues increased; besides, in a political view, the renewal of the pilgrimage admits of a favourable construction being placed upon the dictates of the Shah.

The closing of the northern roads in Persia and Asia Minor, consequent upon the war now enacting in the territories around Mount Ararat and Kars, should be for a time at least advantageous to Baghdad. The demand for goods from Persia and Anatolia must fall chiefly upon the three commercial *entrepôts*, Aleppo, Baghdad, and Bushire; and, central as Baghdad is, with a fine water carriage by the Tigris, it offers the most ready market for the supply. The duties levied are upon the whole in favour of the enterprising European. They have been arranged by tariffs and special treaties, which the authorities at Baghdad and Basreh have always respected. These duties are under five per cent. on an average, and amount to three per cent. only when the goods are merely in course of transit to other places. Exports are charged from

nine to twelve per cent. They consist chiefly of buffalo hides, tallow, salt, dates, wheat, barley, wool, and horses, and gums and galls, the produce of the mountains of Kurdistan. I wish that I could add to this list an article of native export manufacture, but I cannot remember, while writing, a single one. Those whom we meet here and in Asia Minor generally are mostly clothed in Manchester fabrics, and their Harems even derive additional lustre from the soft produce of the looms of England. This fact speaks little for the artisans of the soil at the present time, and contrasts markedly with the historical record, which asserts that silken textures first emanated from the looms of Babylonia.

The ordinary length of caravan journeys from Baghdad to the following places are as under. They vary, however, from deficient means of transit over swollen streams and disturbances in the country.

				Days.
From Baghdad,	not including	stoppages,	to Mosul by Kerkuk	12
"	"	"	Tehran by Kermanshah.	18
"	"	"	Sulimaniyeh	7
"	"	"	Khanakin	4
"	"	"	Damascus	30
"	"	"	Hilleh.....	2
"	"	"	Basreh	14
"	"	"	Anah	7
"	"	"	Hit	4
"	"	"	Samara.....	4
"	"	"	Badri	5
"	"	"	Shuster	12

To the south of Baghdad, however, water transit is in more general employ.

The character of the great rivers which still give life to this tract will be best learned from the brief report which accompanies this paper. It was drawn up last year at the request of Her Majesty's Minister at Constantinople, and contains in a concise form, their capabilities for trade and navigation. To enter into a greater detail would exceed the limits I propose and the time at my command.

[Copy of letter.]

" *Constantinople, May 26th,* 1853.

" My Lord,—Your Lordship was pleased to desire a brief report of the present state of the rivers Euphrates and Tigris. I have therefore the honour to furnish you with the following observations respecting them:—

" The Euphrates has entirely lost its character as a navigable river for many years past, owing to the embankments which formerly con-

trolled the spring floods in the lower part, between Sukesh Sheukh and Korneh, having been swept away about ten years back; indeed, its capabilities for navigation at any time have never been great, though, I am aware, the general opinion, founded upon the reports of the Euphrates Expedition in 1836, are in favour of it as a feasible route to India. It must be borne in mind, however, that Colonel Chesney's vessels navigated the stream during the period of its highest rise, and in a year, too, when the flood attained some feet beyond its ordinary level; consequently, no obstacles were met with in the *descent of the stream* to lead to the inference that any existed. The contrary is, however, the case; for many obstructions, both artificial and otherwise, are found in its course, that develop themselves only in *the ascent of the stream*. These are impediments to navigation even in the season of its greatest height, and during eight months of the year close its channel entirely to steam vessels of the most moderate draught of water. The character of the tribes located on its banks offers also a serious bar to its usefulness for commercial purposes; for I am convinced that, unless some great political change in the country interposes to coerce them, none but well-appointed steam vessels of war could effect the passage independent of the obstructions caused by shallows, ancient mill-dams, and rocky ridges, which traverse its bed from Hit northward as far as the latitude of Aleppo. The rapids coursing over these during the freshes from April to June could only be surmounted in 1841 by the steam vessel I commanded, with the aid of two hundred men attached to tow ropes acting in concert with the steam power; and I question much if the superior vessels now built could overcome them without similar assistance; at all events, the delays that would ensue from the manœuvring requisite to effect the object would neutralize the advantages derivable from the agency of steam. A knowledge of its character in the autumn and winter may be gleaned from the fact of the descent in these seasons occupying the Nitocris from October to April. Her draught was three feet six inches, not more than would be requisite, perhaps, for a vessel carrying both cargo and passengers in addition to her fuel. In some places, indeed, it was necessary to remove every article but the engine, to ensure a draught of two feet six inches before these ridges could be crossed; and then only after several days' hard labour, with anchors and chain cables laid out to force her forward in the direction of the current of the river.

"Such were the impediments met with in 1841-42; now they are still more serious, for the river has left its bed at Al Hammar south of Sukesh Sheukh, and is entirely lost in the marshes and vast swamps on either side, which in the spring overflow a large tract of country, and extend to the Persian Gulf. Since the embankment, alluded to

in the first part of the report, gave way and immersed the surrounding country, boats of very light tonnage even have been compelled to transfer their cargoes to canoes at this part, for conveyance to Sukesh Sheukh, the market of the Montafik Sheikhs. To the anarchy existing in this tribe during the last six years, the change in this fine stream is, indeed, attributable; for the repair of the dams has been neglected in the wars which, during this period, the rivalry of parties has maintained for the Sheikhship; and, weak as the Turkish authorities are now, we can expect no improvement in this respect, as each succeeding year adds to the rupture the waters originally made. It must, therefore, remain sealed to shipping, until, in the course of time, it opens for itself a new channel.

"The Tigris, however, is eminently navigable from the sea to Baghdad at all seasons of the year by very ordinary steam vessels drawing three feet water. In the autumn, when in its lowest state, a little difficulty only is experienced, but this is easily overcome by common activity and attention to the proper channels. There are, indeed, no impediments to its navigation by steam vessels upwards for a distance of five hundred miles; and the tribes, though at times refractory, are in general less violent and exacting than those on the Euphrates. When the trading boats have been annoyed on this stream, it is in most cases traceable to the stinginess of the agents; and, I am confident, a more liberal policy on the part of the merchants themselves would secure the passage of their cargoes at any time. This applies to demands made on the tracking boats principally. Steam vessels would not be so liable to the visits and importunities of the predatory families on its banks.

"From Baghdad northwards, well found, fast steam boats could reach the Upper Zab, and with perseverance might attain as far as Mosul from February to June; at other times this portion of the Tigris is impracticable from the low state of the water.

"I have the honour to be, &c.
(Signed) "FELIX JONES,
"Commander Indian Navy in Charge of the Naval Establishment on the Tigris, and Surveyor in Mesopotamia.

"To His Excellency the VISCOUNT STRATFORD DE REDCLIFFE, G.C.B., Ambassador Extraordinary and Minister Plenipotentiary to the Sublime Ottoman Porte."

Both the Euphrates and Tigris could, however, be rendered all that is desirable under a good government. As it is, they become more destructive and less useful every year. The period of the greatest rise varies between the end of April and third week in May. The

Euphrates remains at a high level longer than the Tigris, owing to its sources being in more elevated tracts. In the latitude of Baghdad the annual rise of both rivers averages 22 feet, but it occasionally exceeds 24 feet, and then the plains around are submerged, and Baghdad itself, owing to the want of proper precautions, is isolated for a time in a sea of water. Towards the end of October they have subsided into their lowest state; the Euphrates, where it has broken its embankments in the lower part, being then but ankle deep, but the Tigris remains available for navigation, as shown in the report.

The tides influence the stream of the rivers as far as one hundred and fifty miles from the sea, but the flood is not observed to run contrary to their course for the last thirty miles of this distance, in which it operates as a check upon the current, and this only when its force is not very strong. During the freshes the flood is sometimes observed to fail altogether, except on the spring tides; at which times the rise and fall, from the bar to Basreh, average about eight feet, and this diminishes gradually to the Hud river on the Tigris and to Negayb on the Euphrates, where a couple of inches of daily swell serves to mark the limit of this phenomenon in nature; and taking as the zero of the scale the junction of the Tigris and Euphrates, ten inches for every twenty miles of river course will, as near as possible, mark the annual gradations in rise from the lowest level at the various places where the distances touch.

The best native boats in use are well adapted for their work. They are strongly built, and, though rough, are of an excellent model. They draw, when laden, from four and a half to six and a half English feet, according to the season. These alone go as far as Basreh. They carry from eighty to one hundred and twenty tons, and sail well when they can profit by the wind, which is very seldom on the passage up stream. The journey from Basreh to Baghdad occupies with a single band of trackers from forty to sixty days; with a double set a cargo has been brought to the city in twenty-two days. The distance by the river is little short of five hundred miles. On the upper part of the stream near Baghdad there is another form of boat used called Siffineh and Teradeh. They are curiosities in model and construction, and are entirely coated with bitumen on the outside, or the stream would otherwise flow through them. They cannot have changed from the earliest periods; indeed, it is not unlikely that their lines are those of the Ark of the patriarch diminished only to suit modern requirements. The first-named is used for bringing small wood from the jungles at no great distance, for the supply of the town and for other local wants. The second is small and chiefly employed in net-fishing. The better sort of fuel is, however, brought to Baghdad in the Basreh trading boats, for it

is plentiful only in the jungles around Kut and the Hye river. The Gufa, or "coracle," a wicker basket coated with bitumen, is the ordinary vessel in use for passing the Tigris and for service near the town. It is very ancient, being mentioned by Herodotus, and portrayed also on the sculptures of Nineveh.

I close the paper with the accompanying lists of the various breeds of horses,* the most familiar species of the finny and ornithological groups pertaining to the zoology of Irak Babylonia, or Turkish Arabia as it is more generally called.† Specimens of the two latter I have already sent to Government, with a few of the minor insectivora included with them. But we have here the lion, the wild boar, the hyena, wild cat, jackal, hares, procupine, antelope, and spotted deer of the larger mammalia, besides a plentiful supply of the ordinary domestic animals, superior and inferior, of all communities, including the buffalo and camel. The leopard, cheetah, and bear are to be met with also in the adjoining mountains of Kurdistan. Of reptiles and insects there are a goodly number, and the catalogue will show they are sufficiently obnoxious to man. Snakes, no great variety, and but one or two species of a venomous character; these are rarely met with. Water-snakes, plentiful but harmless; scorpions, large, abundant, and venomous; wasps and drones, the same; bees, scarce; mosquitoes, of five distinct kinds; and horse, proboscis, and sand flies, all numerous, and of very active, malignant habits from the latter part of spring to the middle of summer: they are ushered in by colonies of fleas. These drawbacks to comforts, however, end in the autumn, and a short sojourn in these countries soon renders one comparatively indifferent to them and to many other annoyances of highly civilised life. Varieties of arachnidæ are plentiful, and myriapoda are common enough in the jungles about the river. The zealous entomologist will find also a swarming multitude of coleoptera, orthoptera, and neuroptera, besides many beautiful species of lepidoptera, if he be inclined to woo them with the midnight lamp on a calm summer's night. Some small specimens of fresh-water crustacea may be met with in the swamps and creeks, and a few varieties of mollusca are known. Entozoa exist in many of the animals, and the stomach of the pelican is almost always literally swarming with these parasites.

With the flora and plants of a larger growth I am not very familiar. What renders the tract more celebrated in this respect than it would otherwise be, is its being the native country of the date; a tree which provides food for men, and animals even, in a region where at times, in rigorous winters, they might otherwise starve. I have not space to enumerate the fifty-two varieties which are known of this useful tree,

* See pages 386 to 388. † Pages 389 to 402.

but it is related that, in the flourishing periods of the Khalifate, Irak was so overspread with it that on the main roads the traveller could pursue his way sheltered from the fierce rays of the sun. It is no longer the case now, for, excepting the groves which skirt the river banks from the sea to the junction of the Euphrates and Tigris, and which extend in patches as far as Hilleh on the former river, there are none to be met with in all the tract until Baghdad is approached. Here, immediately adjoining the city, and at the villages watered by the Diyaleh, a few groves exist which yield a plentiful enough supply, though considered as inferior in quality to the dates around Basreh. Under the prevailing neglect these groves are diminishing rapidly, being swept away annually by encroahments of the river. The Portugal orange attains perfection in Baghdad, and the gardens produce apples, figs, plums, almonds, grapes, apricots, nectarines, mulberries, nebecks, or jujubes, and pomegranates. If we except the latter, all are of very ordinary flavour and growth. The pomegranate, however, is delicious; usually there is an abundant supply of water and musk melons in the season. The native vegetables enumerated in the lists, in the first part of the paper, are plentiful and cheap, but there is a great dearth of these esculents in the winter. Of common flowers, such as roses and stocks, there are abundance, but others are rare.

To the above, a list of medicines procurable in the Baghdad markets, chiefly from herbs found in the surrounding country, or the produce of Persia and Asia Minor, may not be irrelevant. I am indebted to Dr. James Hyslop, the Civil Surgeon at Baghdad, for this addition to the report;* and those requiring more detailed information on the climate, diseases, and flora of Irak, will do well to seek it of him, for he has an ample knowledge of the subject, and is ever ready to oblige inquirers.

This completes the report, which has been hastily drawn up, owing to the plan of Baghdad having occupied the whole of my disposable time for some months past, and other occupations now will not admit of systematic compilation. This must plead for errors and the rambling style throughout. As to the Map, it will, I believe, be found as nearly correct as possible, for it has been the labour of many days, and it will be readily understood that such a work has not been completed without anxiety. To the tact and skill of Mr. W. Collingwood, a young officer of the Indian Navy, lately associated with me, I am materially indebted. The main features are all trigonometrically determined, and the details of narrow streets, &c. worked in chiefly by the aid of a prismatic compass. These must necessarily be imperfect in some respects, when circumspection is so necessary to works of this nature. Revered, too, as the name of Baghdad is, in the east, and delightfully

* Given as an Appendix to this report.

associated with our boyhood in the west, I may be permitted to hope, that my labours have not been thrown away, especially at a time when the public attention is more immediately drawn to events enacting in Asia.

(Signed) FELIX JONES,
Commander Indian Navy, and Surveyor in Mesopotamia.

On the Tribes of Irak.

As an Appendix to the general sketch* I have drawn of the Arab tribes spread over Irak Babylonia, I now offer short notices of distinct families, which have come under my observation; first, however, remarking, these are distinct from the great Bedouin tribes, which have either now settled in Irak, or visit it annually on plundering expeditions, or to adjust quarrels by the sword or negotiation, as may appear advantageous to them at the time. The principal horde of these independent races is that of the Shammar Jerbeh (شمر الجربا) wandering all over Northern Mesopotamia from south of Sinjar (سنجار) and the Khabur (خابور) river to the Saklawiyeh (صقلاويه) west of Baghdad, and even at times to the Hye stream. They are the terror of the Turkish authorities and people. They live entirely in the desert tracts, or, rather, tracts where they appear to have become deserted, and, as caprice or fancied neglects on the part of the authorities seize them, they issue forth on Ghazus, or plundering excursions, carrying off everything far and near, even to the gates of the cities. Unable to drive them away, the Turkish Government has consented to pay their chief a monthly salary to secure his allegiance, or, in other terms, to buy the forbearance of the tribe. This, however, serves *only* a purpose, and, as the chief Farhan says, is not sufficient to purchase coffee for his hourly recurring guests. A sort of hollow peace is, however, patched up by the contract, and comparative quiet, broken only by occasional reports of petty plunderings, exists for a time. They are useful to Government only under general rebellion of the minor Arab tribes, when they are called upon to fall on them with fire and sword, and are prompt enough generally in availing themselves of the permission. They sweep the country on these occasions. Friends and foes of authority are indiscriminately visited, and, though there is not much blood shed, there is universal wreck. The tribes hasten to get out of their way; and so quick are Bedouin movements, that they succeed only in escaping from them with their families. Flocks, tents, household furniture,

* See page 357.

crops and kine, are abandoned and fall into Bedouin hands to be driven off and sold at the lowest possible price, to any who will pay them in ready money. Plunder being their only object, they care not to pursue the proprietors, for they have no real sympathy with the Government in these affairs. Farhan, the son of Sofuk, is the chief of these people.

The Anizeh (عنزه) and Dhiffyr (الفيضر) are the other Bedouin tribes, which visit Irak in any strength. The latter generally locate in the Desert, about the Montafik territory to the west of the Euphrates, and occasionally make forays in Southern Mesopotamia. They cross the Tigris also at times, and levy contributions as far as Badrai (بادرايه) and Mendalli (مندلى). Parties of the former range between Najuf (نجف) and Deir (دير) on the west of the Euphrates, and content themselves with occasional forays only into Mesopotamia. They are generally at feud with the Shammar Jerbeh, and, unless something offers as a bait, will not come readily on to their pasture grounds. They have not, indeed, force sufficient to match them; the strength of the Anizeh being spread at a distance over Syria. The Dhiffyr give assistance to the Montafik in their wars with one another, and with rebellious families subject to that tribe.

I may remark here, as a general rule, that, these Bedouin tribes, and, indeed, all others north of Hilleh in Mesopotamia, and Baghdad east of the Tigris, profess the faith of the Sunni Mahomedans; while beyond those limits to the south they are of adverse principles and creed, being firm upholders of the doctrines of Ali, and his unfortunate progeny. Such antagonistic feelings constitute the safeguard of the present Government of Irak, otherwise it could not endure, weak and despotic as it is.

Tribe of Shammar Togha, wander between the Diyaleh River as far as Kut el Amareh, and from the east bank of the Tigris to the Nahrwan (شمر طوگا ذياله الى كوت العماره والنهروان).

عشاير شمر طوگا	Families included.	No. of Tents.	Usual Abode.
الصّدعان	Assadaan	300	From Kut to Mehdi.
ادلا بحه	Addallabeh.....	200	From Debuni to Zeljeh.
المجابله	Mejabileh	150	From Zeljeh to Dokhaleh.
القفيفان	Al Kafifan	100	From Dokhaleh to Kethiyeh.
از كوك	Az Zakuk	60	From Kethiyeh to Taj.

عشایر شمر طوگا	Families included.	No. of Tents.	Usual Abode.
مناصیر	Menasir.....	40	Daur.
ادلفیه	Ad Delfiyeh	40	From Daur to Alaj.
نفافشه	Nefafisheh	70	From Alaj to Dialeh.
الباویّة	Al Bawiyeh	40	On Nahrwan.
مردان	Mirdan	40	On Nahrwan.

This tribe has been much divided of late, owing to intestine quarrels. It is said to have been originally a branch of the Bedouin tribe Shammar Jerbeh; but having settled, as it were, into agricultural and pastoral habits, it lost its independence and was degraded; Togha, the affix of the original name, having been given them to mark this event, and to separate them still further from the proud race of the other name. It signifies a necklace, "or badge of slavery." They have about 200 matchlocks or guns, and can bring about 700 horsemen into the field. Their war-cry is "Sinaaish." They possess much cattle.

الدّاور	Families of the Daour.	Tents.	Usual Abode.
بیت دبش	Beit Dibish.....	70	Zuiyeh al Zara.
بیت ابوالحسین ابن خالد	Beit Abool Hussein ibn Khaled	70	Der al Akul.
بیت طهماز	Beit Tehmaz	70	Sened.

The Daour are distinct from the above tribe, though found on the same locality. They act, or did act formerly, as guides and Government messengers, and, in consideration of this, paid no tribute, but were permitted to levy on passing boats five Shamies, one Helaneh of dates, and three pounds of coffee. They cross to the west of the Tigris when at feud with the Shammar Togha, and settle then near Shirsh and Shedhayf. They are considered good marksmen. They number 300 guns, and can bring 300 horsemen to the fight.

	Family at Kut.	Tents.	Usual Abode.
عشایر کوت العماره	Ashireh Kut al Amareh..	100	Kut al Amareh.

This small family almost always occupies the same locality, that is, both banks of the Tigris around the Hye stream. They have about 60 guns and a few flocks, but are wanting in camels and horses, like the Daur. Their chief occupation is as guides, and for this purpose they have a small quantity of wheat and barley, and a couple of miserable hack horses awarded them annually by the Government, to whom they pay no tribute, and, moreover, are permitted to levy the same articles from passing boats as the Daur. Formerly they were in greater consideration, but their allowance has been reduced by successive Pachas. They are a quiet and useful people, being well known to the larger tribes. For many years the Sheikh has been employed by me as agent for the supply of fuel for the steam vessel. He has served too as my guide on many expeditions; possesses a good knowledge of the country, and in petty local affairs both himself and his tribe, who are attached to us, have been very useful. They are of Shiah principles.

Zobeid Tribe (عشاير زبيد).

Zobeid Families.		Tents.	Usual Abode.
المامرة	Al Maamereh....	100	Baghdadiyeh to Mahawil and Musseyb.
المراد	Al Merad	200	
ابوعاطف	Al'buwatif	100	From Abdallah to Baghdadiyeh and Nil.
الدّويجات	Aduwijat.....	100	Brenij to Humanyeh.
الجاحش	Al Jahish.....	150	Sherhan.
الدّليم	Ad Delim.....	150	Alwej.
الچلابيّن	Achellabiyin....	200	Mesalhiat to Beghileh.
ابوسلطان	Al'bu Sultan.....	250	Shumli to Euphrates.
قراغول	Kiraghul	100	Shumli to Euphrates.
ابوعجّة	Al'bu Aga	100	Anadel el Irak.
السّيد	As Said.....	200	Huriyeh to Afaj.
الشّامطة	Ash Shemamteh...	100	The Sheikh's household.

This great family occupies Mesopotamia south of the Saklawiyeh canal as far as the Afaj marshes. It is both nomade and settled, mixed cultivators and predatory. They possess cattle in abundance and many good horses. The hereditary chief is Wadi, but of late, owing to

quarrels with the Government he has been disavowed, and his nephew nominally rules over the tribe. Most of the lands on the east and west of the Euphrates, especially about the Hindiyeh neighbourhood, are farmed by the hereditary chief and his adherents. Two years ago a price was set upon his head, and under the present Government he is the richest land proprietor in Irak. It is considered a powerful tribe, being able to raise 500 horse and 600 foot armed with fire-arms. They are of Sunni principles: generally support the Government, but are much demoralized of late from intercourse with the town. Their war-cry is "Jeheysh," and their chiefs are from the house of Abdallah, an ancestor of great repute, who derived his pedigree direct from the Himyar (Homeritæ of Ptolemy), a very early and renowned race of Arabs in Yemen. Wadi ibn Sheffelleh, the hereditary chief, styles himself of the house of Abdallah. Those boasting of immediate descent from this house now comprise about forty tents; and the whole tribe, when required to make an oath of more than ordinary solemnity, regard swearing by the "head of Abdallah" as the most binding on their conscience, for it admits of no mental reservation. Indeed, the infringement of this oath, or taking it without full intention of keeping it, was formerly considered punishable with death; but demoralisation is undermining the old statutes of all the tribes.

Families.		Tents.	Usual Abode.
المعامرة	Al Maamireh	150	Baashiyeh.
الدويجات	Ad Duwejat	200	Resaseh to the Tigris on the east.
ابوخضر	Al'bu Kathr	100	Baashiyeh.
بنى عجيل	Beni Ajil.....	100	Rahamaniyeh.

They are rich in flocks and herds, have good stocks of horses and camels, and combine a settled and warlike character. In peace they cultivate extensive grounds, under Zobeid protection.

Families.		Tents.	Usual Abode.
بنى زيد	Beni Zeyd.....	100	With Zobeid Sheikh.
ابوبدران	Al'bu Bedran.....	70	Iskenderiyeh.

The first generally attends the camp of the Sheikh. They are chiefly camel proprietors and carriers, and pay a tribute of 1,000 Shamies annually. The latter cultivate, and both have a few horse and footmen capable of going out to war.

عشاير العبيج	Baij Families.	Tents.	Usual Abode.
الحقارصه	Al Hakarseh.....	200	Niffar.
السويد	Assueyd	200	Niffar.
اسعدة	Saadeh	200	Niffar and Mesherak.

These families are of Bedouin habits and origin. They are remarkable as good horsemen, and can mount about 500 spearmen. They have few matchlocks and domestic cattle, but abundance of camels, amounting (it is said) to 5,000. Their Sheikh is Aziz al Kaim ibn Shihan.

Arfiyd Family.		Tents.	Usual Abode.
عشاير ارفيع	Ashireh Arfiya....	400	From Shumli to the Hye in Irak.

This tribe is smaller than the Al Baij, but, like it, its people are classed as Bedouins. They can muster 300 horsemen armed with spears, but have few matchlocks. It is said they have 3,500 head of camels, but in other cattle they are considered poor.

Al Hamid Family.		Tents.	Usual Abode.
الحميد	Al Hamid.....	300	In Irak north of the Hye.

Classed as Bedouins, like the two former tribes. Mount 300 spearmen, boast of few guns, and, excepting in camels, are poorly off for cattle; of these they number 2,000 head.

عشاير العمارة	Amareh Families.	Tents.	Usual Abode.
الدريجات	Adderijat	100	From Yessaaiyn to Hye.
العطاطفه	Al Atatfeh.....	100	In Awudeh north of the Hye.
العابد	Al Aabed	150	From Huish to Rumiyeh.
ابوغربى	Al'bu Gharbi	100	From Rumiyeh to Azniber.
العليجيه	Ahelijiyeh.....	50	From Azniber to Bedaeh.
ابوعطيه	Al'bu Atiyeh.....	100	From Bedaeh to Abadiyeh.
الغانات	Ajghanat	50	From Abadiyeh to Zikh.
والد بركه	Waled Aberkeh...	30	From Zikh to Bither.
البريصات	Al Berisat...	100	Yuseefiyeh.
ابوعميره	Al'bu Amireh	100	Heram.
اروبعيّن	Arubaiyn	100	Umm el Bini.
ابوالحه	Al'bu al Heh.....	100	An Nifeshiyeh.
والد فرج	Waled Faraj	50	Abu Ahmar.
الروضان	Ar Ruthan.....	50	Bither.
الحماس	Al Hamas.....	100	Abu Zufer.

This tribe, some thirty years back, was one of the most powerful in Irak, and ruled with absolute authority, both to the north and south of the Hye river, setting the Government frequently at defiance, and levying "black mail" from all around. The increased power of the Montafik under the rule of Dawud and Ali Pachas served, however, to break them, and now they can give but little annoyance. Their late Sheikh was Derveish al Amir, the latter being the distinguishing title of the tribe. They possess about 500 matchlocks, some good horses, and plenty of camels, sheep, and oxen. They have frequent quarrels with the Beni Laam. Their war-cry is "Akhuyet Saadeh."

عشاير العمارة	Amareh Families.	Tents.	Usual Abode.
مياح بيت ناصر	Myah Beyt Nasir..	200	As Sedifeh.
الكريم	Al Kerim.....	200	North of the Sedifeh.
الرّمحه	Ar Remhha.....	100	Al Abel.
الزيد	Az Zyed	100	Bedat Arhameh.

عشا یر العماره	Amareh Families.	Tents.	Usual Abode.
الدّدبات	Ad Debat	100	Bedat Rudan.
الزّويهد	Az Zuahed	100	Abu Ajhirat.
الغريب	Al Gharib	100	Al Zezreh.
ابوعمرة	Al'bu Omrah	50	Wasit el Hye.
ابوعيسى	Al'bu Ayisa	100	Al Akar.
اضويهرى	Adduiheri	100	Junction of the Hye with the Euphrates.
الكويشات	Al Kuwishat.....	50	Imet al Yul.
ابوعجاج	Al'bu Ajaj.....	40	Kazmet al Hye.

These portions of the Amareh are now living under the protection of the Montafik Sheikh, and cultivate lands assigned them by that personage. They are poor, and pay for the lands they occupy an assessment of 300 Shamies. They have lost the character of Bedouins, from their more settled mode of life.

Tribe As Seraj (السراج)

Families.		Tents.	Usual Abode.
ادلفيه	Addelfiyeh	250	Aj Jilibiyeh.
حبجيّه	Habjiyeh.....	70	Rejajeh.
اضياع	Addiyaa	50	Sid al Nasriyeh.
الغريب	Al Gharib.....	50	Al Beiyaiyeh.
العبيد	Al Abid	50	Al Muwakef.
فراطشه	Feratesheh	200	Ashib Abu Bezaziyin.
العقيل	Aakyie	200	Al Hemireh.
المقاصيص	Al Mekasis.....	100	Bedat Ajie.
ابودبخى	Al'bu Debkhi.....	100	Al Kherij.
ابو رشاده	Al'bu Reshadeh...	120	Nahr Tamer.
ابوجيب	Al'bu Habib.....	70	Al Kubbeh Ali.
ابوكشى	Al'bu Kashi	70	Nahr Ibn Jesam.
بنى عقبه	Beni Akbeh	150	Al Hammidyieh.

These families of As Seraj wander over Mesopotamia south-east of the Hye, as far as the Hud river. They own allegiance to the Montafik, so far as being protected by the Sheikhs of that large family, but are really almost independent. The tribute levied upon them is usually 12,000 Shamies annually, but, unless threatened, it is seldom but partially paid. Of fire-arms they can muster about 400, and can, perhaps, bring double the number of mounted spearmen into the field. Their war-cry is "Akhuyet Hamdeh." They are rich in Arab estimation, and possess large flocks and herds of cattle, besides camels. They give protection, too, to a few buffalo proprietors, and are much feared by native trading vessels.

Family.		Tents.	Usual Abode.
ابودراج	Al'bu Deraj	500	From Al Awnair to Al Jebileh.

The families of this tribe I am not conversant with. They give allegiance sometimes to the Beni Laam, and sometimes to the Montafik.

Their tribute is 4,500 Shamies annually. They wander between the Tigris and Euphrates south-east of the Hye, and are rich in camels, horses, and sheep, and have about 200 guns.

Disjointed Families.		Tents.	Usual Abode.
حدريه	Ad-deriya	200	From Jebileh to Shetaniyeh.
المعيوف	Al Mayoof	150	From Shetaniyeh to Awudeh.
المرجان	Al Mariyan.....	200	From Awudeh to Hor.

These are great pastoral families on the same general locality south-east of the Hye, under Montafik jurisdiction. They do not cultivate, but possess great herds of cattle, flocks, and a few horses. They may have 350 guns among them.

The principal tribe inhabiting the districts on either side of the Euphrates south of the Hye river is the Montafik (عشاير المنتفك). The chief family is descended from one of the ancient Sherifs of Mecca, whose name was Maneh (مانع), and who had fled from the holy city, fearing the consequences of a feud in which he was involved. It would take too much time to recount, in the present paper, the history of Maneh's

proceedings. It will suffice to say, that having by his talents worked himself into authority in the districts which the tribe inhabits at present, he managed to bring the various families under one head. Thus united, they took the name of Montafik (المنتفك), as that of the tribe; at least such is the report. Its direct genealogy is given as follows:—

MANEH married the daughter of BARAKAT IBN MUTLIJ-ESH-SHERIF, and had offspring,

MAHOMED,	(محمد ابن مانع),	who begat
SADUN,	(سعدون ابن محمد),	who begat
THAMER,	(ثامر ابن سعدون),	who begat
MAHOMED,	(محمد ابن ثامر),	who begat
THAMER,	(ثامر ابن محمد),	who begat
AGIL,	(عجيل ابن ثامر),	who begat
MAHOMED,	(محمد ابن عجيل),	who begat
FARIS,	(فارس ابن محمد),	who begat
AGIL,	(عجيل ابو فارس).	

The chief families of the tribe were from the Beni Timim (بنى تميم), the Beni Malek el Ajwad (بنى مالك والاجود), the Beni Syud (البنى السيد), Al Khafajeh (الخفاجه), Beni Rekab (بنى رجاب), and the Bedoor (البدور).

The tribe is now divided into two parts; the Al Ajwad portion inhabits the districts north of Sukesh Sheyukh around Semaweh, and the regions of the Hye river; the southern Montafik districts south of Sukesh Sheyukh to the Persian Gulf, eastwards as far as Hawezeh, and north-east as far as the Hud, are in the possession of the Beni Malek, improperly pronounced Malich. With the exception of the house of Shebib, (شبيب) the tribe professes the Shiah faith of Islam. That name applies to the family of the present Sheikh, as does the name of Sadun (السعدون). These are of Sunni principles. Their war-cry is "Azyud," while that of the Beni-Malek, or the Beni Tenan ez Zeydan, as they are sometimes called, is "Yetun."

For the last five years, this powerful tribe has been chiefly occupied in war, party struggling against party, cousin against cousin, for the Sheikhship. The Turkish Government has fomented these discords, and within the last two years three Sheikhs have been acknowledged. Mansur es Sadun (منصور السعدون) now reigns, having been lately invested, but he has met with much opposition from his subjects; and his two rivals, Saleh and Faris, are at hand, the one in Baghdad and the other in the Desert, not far off, to work on the prejudices of the Pacha as soon as a cause for dissatisfaction may exhibit itself in his mind. The country governed by the Montafik is, therefore, much impoverished, for the cultivating tribes inhabiting it are so oppressed by succeeding

Sheikhs, that their lot is a hard one indeed. Sukesh-Sheyukh is the chief seat of the family governing the tribe. It was a favourite mart of the Arabs, and much trade was carried on when the Montafik were at peace with each other. Many influential traders resided there, but the late troubles have sent them away to escape from the rapacity of the contending Sheikhs. The tribute paid to the Baghdad treasury by the tribe varies according to its strength, and the means the Turkish Government has of enforcing it; but ordinarily it may be computed at a lac and a half of Shamies a year, in money and presents to those in power. The tribe is rich, however, and could afford to pay much more than it consents to do. The whole date districts are in its hands, and it further possesses abundance of cattle, horses, and flocks, besides large herds of camels. The territory is rich also in rice grounds, and there are many tribes of cultivators living, even rich, under Montafik protection. Of these the Ahl Jezair (اهل الجزاير) and Beni Mansur (بنى منصور) are powerful bodies in themselves.

Next in order to the Montafik is the great tribe of Beni Laam, occupying both banks of the Tigris, from the Hye river to the Hud. (عشاير بنى الام من صوبين الد جله شرقي الحى وكوت العمارة الى الحد). They are said to derive their origin from one Waül, a contemporary and comrade of Khaled in the wars of Mahomed, whose power united them under a common banner. Their name, Beni Laam (بنى الام), signifies "the collected sons." Like the Montafik, they have become broken from internal jealousies fomented by the Turks. Two Sheikhs now govern separate portions of the tribe. They are thus greatly weakened. They pay an irregular tribute, but they are assessed at about a lac of Shamies, excluding contingent presents.

عشاير بنى لام	Ashair Beni Laam Families.	Tents.	Locality.
السيرخه	Al Syrkheh.....	100	Ali Ghurbi.
الويمى	Al Weymi	200	Al Gubboor to the hills.
اشيحطاط	Ash Shihhatat	100	Ali Sherki to the hills.
الخسرج	Al Khasrej	250	Nahr Saad to the hills.
ادلفيه	Ad Dilfiyeh	70	Jowriyeh to the hills.
الحسن	Al Hassan..	250	Jibbeyleh.
النبگان	Al Nebgan	120	Amareh.
العطيبات	Al Athhibat	100	Ghardali.
الحلفه	Al Halfeh	400	Habbesiyeh.

عشایر بنی لام	Ashair Beni Laam Families.	Tents.	Locality.
الجاعوره	Al Jaaoureh	120	Al Jebel
العاونه	Al Aawuneh.....	60	Al Nuaseh.
الحرب	Al Harb	350	Kharsaniyeh.
الدبيس	Al Debbyis.....	200	Al Haddam.
الحمزه	Al Hamzeh.....	50	Beisheh.
الكنانه الكمر	Al Kananeh al Kamr	500	Amareh.
ادريسات	Ad Dereissat.....	600	With the Sheikh.
ابوفرادی	Al'bu Feradi.....	400	Amareh.

This is the native estimate of their strength, but I believe it to be much over-stated. An allowance of a gun to a tent, I deem to be their strength in this arm. They are good horsemen, have plenty of flocks, and herds, besides camels, and tolerable horses. When at feud with the authorities, they stop the trade by the river, and at all times levy a toll on passing boats. They encourage cultivators, from the Luristan mountains near them, to cultivate the great plains they occupy, but do not degrade themselves by tilling the ground. They take the daughters of the neighbouring Al'bu Mahomed tribes as wives, but will not give their females in marriage to them, or, indeed, to any race inferior to themselves. Mufkhorr is the present hereditary chief. He is rapacious, bigoted, and niggardly; hence he has but a partial deference shown him by his people. The tribe are all Shiahs of a fanatical class. When pressed by the Government, they fly into the Persian territories bordering upon Hawezeh. Some portion of this tribe, at open strife with the rest, has been located in Persian territory for years past. They give protection to Madaan families, who pay for the pasture of their buffaloes on a portion of the territory assigned them by the tribe. These families are given as under:—

عشایر المعدان	Madaan Families.	Tents or Huts.	Locality.
اسواد	Assowad.....	300	Bil Alonah.
الحميدان	Al Hemeydan	200	Al Mathimimeh.
اسوادان	Assowadan.....	400	Al Wajef.
اجويبير	Aj Joweybir	100	Al Kusseh.

عشاير المعدان	Madaan Families.	Tents or Huts.	Locality.
الذريج	Al Zeyrij	300	Abu Arabid.
الحارشين	Al Hharishin	200	Bil Makriyeh.
ار بيعه	Ar Rubiyeh	150	Abu Jathiya.
ابوعبود	Al'bu Abud	150	Al Akashi.
بنى طرف	Beni Tarf	100	Al Harsheh.

They are strong in guns, though not so formidable in other respects, having neither horses nor camels. Their chief riches are in herds of buffaloes, and a few flocks of sheep. Unlike the real Arabs, they reside in huts made from the reeds abounding in the marshes.

The Beni Laam might be able to bring 15,000 horsemen into the field, if united, but certainly not 5,000 in their present state; and, if we allow a gun to every third man of these numbers, we shall have, I think, more than their effective strength in fire-arms.

The undermentioned Arab families wander in Mesopotamia, west of Baghdad, as far south as Musseyib.

Families.		Tents.	Usual Abode.
ابوعامر	Al'bu Aamer	250	Nahr Dawudi.
بنى تميم	Beni Timim	300	Akr Kuf.
ازوبع	Azzoba	300	Nahr Abu Gharayeb.
الفداغه	Al Fedagheh	150	Nahr Mahmudiyeh.
البرغوث	Al Birghuth	130	Nahr Rathwaniyeh.

They are mixed agricultural and pastoral families, but they are warlike, possess some good horses, and, if we allow a gun to a tent, we shall have their strength in fire-arms. The three first are of Bedouin blood, but degenerated.

The following tribes are met with to the north-west of Baghdad above the Saklawiyeh canal, chiefly on the right bank of the Tigris.

Families.		Tents.	Usual Abode.
ابوصقر	Al'bu Saqr.....,	200	From Saklawiyeh to Suadiyeh in the Desert.
المشاهدة	Al Meshahedeh ...	350	From Taji to Tarmiyeh.
اجّبور	Aj Jebour.....	140	On the district called Taji between Kathemein and Tel Goosh.

The first of these is wholly pastoral, and of Dellim blood originally. It pays tribute direct to Baghdad. The two last cultivate lands usually pertaining to the farmed district of the Dijeil. They have cattle in plenty, a few horses, and are capable of maintaining a position in a territory exposed to Bedouin visits. A gun to a tent will exceed, perhaps, their strength in fire-arms. They are expert thieves, and indulge their propensities in petty ways unusual with the tribes in general.

Tribe of Dellim, whose territory is chiefly upon the east bank of the Euphrates, from west of Baghdad to the north as far as the town of Hit (عشاير الدليم غربي بغداد شبط الفرات).

Families.		Tents.	Usual Abode.
المحامدة	Al Maamdeh	100	From Saklawiyeh to Nemaleh.
ال دويب	Al Dhuweyb	100	Al Ghurbat.
المحامدة	Al Maamdeh	90	From Saklawiyeh to Nemaleh.
ابوشهاب	Al'bu Shhab.....	200	Nemaleh.
كرطان	Qirtan	60	Al Aosijeh.
ابواعبيد	Al'bu Obeyd	100	Umm al Rus.
ابوعلوان	Al'bu Alwuan	100	Kabr Feraj.
الجنابين	Al Jenabiyin	300	Zoweyht al Feraj.
ابوركيبه	Al'bu Rageybeh...	50	Ditto.
ابوفراج	Al'bu Feraj.....	60	Sheikh Hadid.
ابوذياب	Al'bu Dhiyab ...	200	Ditto.
ابوعسّاف	Al'bu Assaf.....	100	As Sifeyneh.
ابونمر	Al'bu Nimr.....	300	Nefateh (naphtha springs) to Sinadek.

The tribe is powerful in Arab signification. Its families are rich, and combine the peaceful character of the cultivator with the warlike one of the Bedouin. Many of its more aristocratic chiefs and people will not, indeed, till the soil; they, of course, fatten upon the spoil obtained from the weak. The territory they inhabit is a rich one, and 340 irrigating wells in the districts are counted as belonging to the tribe. Each well is supposed to pay to the Zabit of the tribe, on account of Government, one ton of barley, half a ton of wheat, and the value of about thirty shillings in money at every harvest; but much of this payment is evaded, owing to the weakness of the Government.

The territory of the Dellim, on the west of the Euphrates, is celebrated also for its natural springs of fine water, which, in the spring of the year, overflow and fall into the Euphrates. In the summer the waters recede; but the ground, which they have left moist, is carefully sown with grains, and plentiful crops from this source alone are obtained.

These natural fountains, called Thannayl and Abu'l Kir, are situated about four and a half hours north-west of Kaleh Rahmadi.

The latter, as their name implies, are impregnated with bitumen, but the water otherwise is said to be good and wholesome. The whole district of the Dellim, from Hit southwards, is said to be more or less prolific in sulphur and bituminous productions, particularly where the springs are thermal and salt, as at Hit, having a temperature of about 93°. Much salt is obtained from them by evaporation.

Though the occupations of the Dellim are chiefly pastoral, the security of their position, their strength, and character for riches lead them to offer much opposition to the Government, for the Bedouins readily join them when inclined to be lawless and refractory. The tribe itself, indeed, usually throws the blame of its actions upon those people, who are ever ready to father the sins of others so long as they enjoy hospitality and good fare free of expense, for "say it's me" costs them little at any time. The temper of this tribe is very uncertain from these causes: the roads between Hit, Baghdad, and Hilleh are kept in constant alarm; caravans suffer plunder; and violence, if not murder, attends the forays they are engaged in. In the spring they wander as far as the Dijeil and Takrit on the Tigris for the benefit of the richer pastures for their flocks. Were they united they might muster 10,000 fighting men, with a third of that number armed with fire-arms. They possess camels, flocks, and herds in abundance; are hospitable; and some of the chiefs, whom I have met, possess an intelligence above the ordinary run of Arab races.

Tribes located near the Dijeil, north-west of Baghdad

(عشایر غربی بغداد و قریب من الد جیل).

Families.		Tents.	Usual Abode.
الخسرج	Al Khasrij.....	130	Dijeil.
المجّمع	Al Majummeh	200	Beled and Kantareh Harbeh.
المقادمه	Al Makadmeh	150	Sumeycheh to Tigris.
بنی تمیم	Beni Timmin	250	Khatheyreh.
ابو هیازع	Al'bu Hyaza	150	Neighbourhood of Jibbareh and Beled.
الجمیله	Aj Jemeyleh.....	130	Between Sumeycheh and Beled.

The Dijeil is a canal cut from the west bank of the Tigris just below Samara, and waters an extensive district formerly containing a vast population that resided in towns, which are now seen in ruins on the deserted channel of the Tigris. They are cultivators, principally in the employ of the Zabit of the Dijeil, who farms the land to them. They are rich too in flocks and herds. Portions of them are pastoral, and some predatory, for they join the Bedouins at times in their forays. All are petty thieves on every occasion. A gun to a tent, and a mounted spearman to every three tents, is the full measure of their strength when united.

Tribe of Abeyd, north of Baghdad

(عشایر العبید من غربی بغداد الی جبل حمرین).

Families.		Tents.	Usual Abode.
العبید	Al Abeyd	150	Shabeycheh.
الشاوی زادة	Ash Shawi Zadeh .	100	Ditto.
ابوعلقه	Al'bu Algeh	300	Near and around Kerkuk.
ابو هیازع	Al'bu Hyaza	200	Al Aith.
ابوعلی	Al'bu Ali.....	150	Hamrin.
ابوریاش	Al'bu Reyash	150	Hawi Leklek.

The preceding occupy the land opposite the Dijeil around Samara and the Katuls, and extend from the east bank of the Tigris to the Hamrin hills and Kerkuk. They are of ancient lineage, and known also as the Al'bu Shahr (ابوشاهر), or "illustrious." They are predatory, and strong in horses and camels. Their Sheikh Sadun gives much trouble to the authorities.

Indiscriminate Tribes.

Families.		Tents.	Usual Abode.	Remarks.
اشهوان	Ash Shawan.....	200	On Lesser Zab..	Chiefly pastoral, but predatory on occasions; they are known under the general name of Al'bu Howdan.
البكر	Al Bekr	200	North of the Zab.	
الطى	Al Tai	500	South of Great Zab.	Cultivators and predatory; have many camels.
البياط	Al Beyath.....	300	Between Tuz Khurmati and Kifri.	These are more of Turkish than Arab origin. They are rich; they cultivate, and are cattle proprietors. In war they are bound to give military service to the Government.
ابوسلمان	Al'bu Selman	200	Zab el Kebir ..	Cultivators as well as predatory; the last make long forays, at times as far south as Baghdad. Suliman Mirza was killed by a party of these close to Kathemein.
ابوحماد	Al'bu Hamad	150	Eski Mosul	
بنى زيد	Beni Zyd.....	100	Eski Kifri	These are chiefly cultivators and cattle proprietors.
بنى تميم	Beni Timim.....	150	BetweenSindiyeh and the Atheim.	These are portions of an ancient Nejid family, but degenerated into settled cultivators in various parts.
بنى تميم	Beni Timim.....	300	Belad Ruz	
الندو	An Nedeh	300	Mendali	Cultivators and predatory at times.
خسرج	Khasrij.....	100	Dholöiyeh Hawis..	Cultivators on the Dijeil districts.
الكرخيّه	Al Kerkhiyeh	300	Keshkul and Syedelun.	Chiefly cultivators.
النعيم	An Naaim	100	Hamrin	These are chiefly of the Momen order; many of them profess great sanctity, and go about as Syids and Dervishes. They have camels and horses.

Families.		Tents.	Usual Abode.	Remarks.
اجبور	Aj Jebur	300	Dholöiyeh Hawis..	Cultivators.
الكرويّة	Al Kerwiyeh	300	Kara-teppeh.....	Cultivators chiefly, but they have some camels.

The tribes enumerated in the foregoing pages are those which I am best acquainted with in Irak. With many I am familiar, but with others I have no more knowledge than from native report, which is not always to be depended upon. Their numbers and strength must, therefore, be considered at best but an approximation, for to obtain truth in a country where no statistics are kept, or recognised, it becomes a difficult matter to extract it from the immense mass of fable, &c., constantly in the mouths of these singular people, who frequently deceive, either from suspicious motives or from mere wantonness of character. There are other tribes too which I have been silent upon altogether, as, in a month or two, I may be able to offer a more correct account of them than I am possessed of at present. These inhabit the land and marshes west of the Euphrates, tracts as yet untrod by Europeans, but which I propose to visit in a short time.

(Signed) FELIX JONES,
Commander and Surveyor.

Baghdad, October 8th, 1854.

HORSES (اصول الخيل).

I have been furnished with the following list of the various breeds of horses of Nejid blood, which are known amongst the Shammar Jerbeh, the Anizeh, and Dhiffyr, the chief Bedouin tribes in Syria and Mesopotamia. The principal or chief stock is that named Kahilet Umm al Arqub (كحيلة ام العركوب), from whence the others are derived in the following order :—

Saklawiyeh Jedran.	صقلاويّه جدران
Saklawiyeh Aoubir.	صقلاويّه عوبير
Hadbeh Anizehi.	هديه عنيزه
Hadbeh el Berdawil.	هديه برداويل

Hamdani Samri.	حمد انيه السمرو
Kahileh an Nowaq.	كحيله النّواق
Maankiyeh Hederi.	معنقيّه هجرس
Al Kubeysheh.	الكبيشه
Jilfeh Adhueh.	جلفه اضحوه
Rubdeh.	زبده
Attaweyseh.	اطويسه
Abeyt Sherak.	عبيت شراك
Atterafiyeh.	اطريفيه
Krush.	كروش
Saklawiyeh Arjeibiyeh.	صقلاّيه ارجيبيّه
Ash Sheheyb.	اشهيب
Kahileh al Mosaneh.	كحيلة المسنّه
Abeyt al Hamreh.	عبيّة الحمره
Wadhneh Khorasan.	وزنه خراسان
Al Jaeysheniyeh.	الجعيشنيه

These fine animals can be procured with difficulty from the tribes, though the foals born from them of inferior mothers are readily disposed of to the dealers. To procure first-rate horses in Baghdad, however, is at all times difficult, for the dealers generally secure them with a view to profit in the Indian market, and, unless some disproportionate sum be offered, they will not part with an individual horse, for they say it spoils the sale of the rest. Horses of no pretensions, or of a very little blood, can be got, varying in price from Rs. 50 to Rs. 700. Mules can be bought also in the town, but Persia affords the best supply. Their price is from 150 Kerans to 250, between Rs. 70 and Rs. 120. Of donkeys there are a goodly assortment. The white donkey from Bahrein is a fine creature, and fetches about Rs. 70 or Rs. 100 even. Common donkeys of the place may be had at all prices. Camels and dromedaries are readily procurable, the best usually selling for about Rs. 80 each, and an inferior one costs about half or a third of the sum. Those found in Mesopotamia carry about three hundred weight, and

are not fitted for journeys beyond the plains; but there are others available on the frontier tracts, adapted to mountain roads. These, too, carry ordinarily a hundred weight more. Mares of inferior breeds can be had, but those of superior stock are jealously preserved by the Arabs. Abbas, Pacha of Egypt, offered two thousand pounds for a mare of the Ashshehyeh breed, but it was refused by the Dhiffyr Bedouin, her owner. This type of horse is said to be found only among that people.

Fragmentary Portions of the Zoology of Irak Babylonia (طيور وحيوانات صغار مال العراق).

Vertebrata.—Birds and small Carnivora.

Family.	Arab Names.		English Equivalent.	Remarks.
Phœnicopterus	Gharnuk	غرنوق	Flamingo.	
Platalea	Maghairif	مغيرف	Spoonbill.	
Botaurus	Abu al Wak	ابوالواق	Species of bittern.	
Unknown	Jereydi al Nakhl	جريدى النخل	Mungoose.	
Corvus	Ghrab Aswad	غراب اسود	Crow.	
Gruida	Beyuthi	بيّوظى	Paddy bird, or crane.	
Corvus frugilegus ..	Zagheh	الذاغه	Rook.	
Aptenodytes	Waswas	وسوس	Penguin species.	
Numenius	Nakus	ناقوس	Curlew.	
Strigidæ	Bumeh	بومه	Owl.	
Unknown	Tetweh	طوطي ططوع		
	Tetowiseh	تطويسه		
	Tetwaneh	طيطوانه		
Perdix rufus	Hejil	حجل	Rock, or Desert partridge.	

Family.	Arab Names.		English Equivalent.	Remarks.
Unknown..	Shakerrak	شقراق		
Alcedo	Tusseleh	طسيله	Kingfishers.	
	Asleyl Aga..	اصليلگغ		
Unknown	Amriaye	امريعى		
	Shijrej	شجرج		
	Sagalageh	صگلگه		
	Khuthreh	خظيّر		
Francolinus	Darraj	درّاج	Francolin.	
Scolopax	Dejaj al Ard	دجاج الارض	Solitary snipe.	
Columba	Tuarni	اطوارني	Wood pigeon.	
Unknown	Sowah	صوّه		
	Kersua	الكرسوع		
Columba	Fakhtaiyeh..	فاختة	Turtle dove.	
	Srati	اسراطى		
	Kudri	الكدرى		
	Tebn	تبن		

	Ghurab Abka	غراب ابقع	
	Sarsmeh	صارصمه	
Unknown	Shejrej	شجرج	
	Hudhud	هد هد	
	Katah	قطه	
	Sueydeh	سويدا	
	Abu Hakeb	ابوحقب	
	Deheruj	دحروج	
Cheiroptera	Khashaf el Leil	خشاف الليل	Bat.
Unknown	Berhan	برهان	
	Erhymi	ارهيمي	
Erinaceus	Kunfed	قنفذ	Hedgehog.
Unknown	Haya Kebri	حيّه كبرى	Snake family.
Falconidæ	Hadeyieh	حدّيه	
Anas	Sabeyhi	صبيحي	Species of duck.
Accipiter Falco Nisus	Basheq	باشق	Sparrow hawk.
Anas	Sugluk	صقلوق	Waders.
	Ankutheh	انقوطه	Waders.
* Phalacrocorax	Ahleychi	اهليچي	Cormorant.

Family.	Arab Names.		English Equivalent.	Remarks.
Botaurus	Sebareh	صبّاره	Bittern family.	
Phalacrocorax	Ghakeh	غاكه	Cormorant family.	
Rallus	Dejaj al Mai	دجاج الماء	Landrail.	
Anas	Arkheywi	ارخيوى	Wader.	
Ardea	Shheyby	اشهيبى	Heron family.	
Falconidæ	Semeychi	اسميچى	Hawk family.	
Larus	Ghaqueh Segheir	غاقه صغير	Gull.	
Limosa	Aaweydi	اعويدى	Gadwit.	
Botaurus	Abu Ghatiwieh	ابوا غطيوه	Bittern family.	
Sturnus	Zerzur	زرزور	Starling.	
Ibis	Anazeh	عنازه	Black ibis.	
Querquedula	Shur al Seyf	اشورالصيف	Summer teal.	
Grallatores	Breyji	البريجي	Coot.	
Columba	Kumri	القمرى	Doves.	
Scolopax	Ferrar	فرار	Snipe.	
Falconidæ	Abuhak Abyeth	ابوحق ابيط	Hawk species.	

Rallus	Dueych er Ruz	دويچ الريز	Wader family.
Ditto	Dueych er Ruz Segheir ..	دويچ الريز صغير	Ditto.
Colymbidæ	Deheyrij	دحيرج	Ditto.
Ditto	Khuweywit	اخويوط	Ditto.
Phalacrocorax	Hakhak	عقعق	Cormorant species.
Aquila	Akteymi	اقطيمى	Eagle family.
Ditto Vulturina	Aakab	عقاب	Vulture eagle.
Bubo Virginianus ..	Hameh	هامه بومة الخرايب	Great horned owl.
Dafila Acuta	Choshem	چوشم	
Plotus	Tamasheh	طماسه	Pelican family.
Falco Peregrinus ..	Shahin	شاهينه	Hawk family.
Unknown	Abu Jeradi	ابو جريذى	
	Kateh Hindawi	قطه هنداوى	
Larus Argentatus ..	Zerqueh Ghafi	زرقه غفى	
Falco Nisus	Atmejeh	اطمجه	Hawk.
Unknown	Amdeyfir al Kateh	امديفر القطه	
	Dhherjeh	دحرجه	
Columba	Hemmamet al Hussein ..	حمامة الحسين	Pigeon class.
	Yepellagha	يوللاغه	

Vertebrata.—Fishes of Babylonia (سمك شطوط العراق).

Family.	Arab Names.		English Equivalent.	Remarks.
Mullus ?	Shabut	الشبوط	.....	Weight 15 lbs.
	Jerriyeh	الجرّيه	.....	Do. from 5 to 6 lbs.
	Buniyeh	البنيه	.....	Do. 9 lbs.
	Shilg	شلك	.....	Do. 7 lbs.
	Bezr	بزر	.....	Do. 6 lbs.
	Gataneh	القطانه	.....	Do. 7 lbs.
	Bertimeh	برطيمه	.....	Do. 5 lbs.
	Ajzaneh	اجزانه	.....	Do. 4 lbs.
	Arratheh	عراضه		
	Abu Sueyf	ابواسويف		
	Shilg Segheir	شلك صيغر	.....	Weight 3 lbs.
	Bez	بز	.....	Do. from 90 to 120 lbs.
Squalus	Kosij	كوسج	Common shark found 500 miles up the Tigris.	
Testudo and Chelonia ..	Rakeh & Refesh	الرّقه ورفش	.....	The former is the Common Testudo Græca, but the latter is a Turtle, peculiar, I believe, to the Tigris and Euphrates.

List of Medicines, Drugs, &c. procurable in the Bazars of Baghdad.

English Names.	Arabic Names.		Persian Names.	Whence procured.	Price	
					Per	Rate in Riege Piastres.
Absinth	افسنتين	Ofsentin	افسنتين	Persia.....	72 grains.	2
Acid, Nitric.....	تيزاب	Tizab	تيزاب	Baghdad.....	Do.	1
„ Sulphuric	دهن كبريت	Dehn Kebrit	جوهر كوكرد	India	Do.	3
Almonds, bitter	لوز المر	Lauz el Murr	بادام تلخ	Baghdad.....	3 lbs. Troy.	40
„ sweet	لوز حلو	Lauz Halw	بادام شيرين	Baghdad.....	Do.	..
Aloes.....	صبر	Sabr.....	صبر	India	Do.	80
Alum	شب	Shabb	زاج سفيد	Persia.....	Do.	14
Anise seed	انيسون	Anisun.....	انيسون	Aleppo	Do.	30
Antimony, Sulphate of .	كحل	Kohl	سورمه سنگ	Europe	Do.	30
Arsenic	سم الفار	Samm el Far	سم الفار	Europe	Do.	50
Asarabacca	اسارون	Asarun.....	اسارون	Syria	Do.	40
Assafœtida	جوپفه	Juwifeh	.....	Persia.....	Do.	40
Bastard Saffron	قرطم	Kurtum	خسكدانه	Persia.....	Do.	10
Benzoin	لبان	Leban	حسن لبه	India	Do.	120
Betelnut, black	فوفل اسود	Faufal Aswed	فوفل قرمز	India	Do.	12

English Names.	Arabic Names.		Persian Names.	Whence procured.	Price	
					Per	Rate in Riege Piastres.
Betelnut, white.....	فوفل ابيض	Faufal Abyad	فوفل سفيد	India	3 lbs. Troy.	..
Black Cummin seed ..	حبّة السودا	Hubbeh es Sauda ..	سياه دانه	Baghdad	Do.	12
Camphor.....	كافور	Kafur	كافور	India	Do.	160
Cantharides.....	ذرنوح	Dharnuh	ذرنوح	Kurdistan	9 oz. Troy.	80
Cardamom seed	هيل	Hayl	هيل	India	3 lbs. „	12
Carraway seed	غزنايج	Gheznaij	رازيانه	Baghdad	Do.	40
Carrot seed	بزر الجزر	Bezr el Jazar	تخم كزر	Baghdad	Do.	10
Cassia fistula	قصب الفلوس	Kasab el Felus	فلوس	India	Do.	40
Castor	جند	Jend	جند	Persia & Egypt ..	Bag.	40
Castor oil	دهن الخروع	Dehn ol Kharua	روغن كرچك	Baghdad	3 lbs. Troy.	40
Cinnamon	دارصيني	Darsini	دار چيني	India	Do.	80
Cammomile flowers ..	بابونج	Babunej	بابونه	Persia.....	Do.	12
Charcoal	فحم	Fahm	زكال	Baghdad	128 do.	40
Cloves	قرنفل	Kranful	ميخك	India	3 do.	60
Cocculus Indicus	ذهر السمك	Zahr es Samak.....	زهر ماهي	India	Do.	20
Coccus Caeti	قرمز	Karnaz	قرمز فرنگ	Europe	Do.	360

Coral	عرق مرجان	Erak Marjan	ریشهٔ مرجان	India	Do.	400
Colchicum	صولنجان	Sulinjan	صولنجان	Egypt.....	Do.	40
Colocynth	حنظل	Hanzal.....	هندوانه ابوجهل	Baghdad.....	Pod.	5
Copper, Sulphate of ...	زنجاره	Zinjareh	توتیای کبود	India	3 lbs. Troy.	40
Coriander seed	کزبره	Kuzberah.....	کشنیز	Baghdad.....	Do.	10
Cream of Tartar	ملح طرطیر	Melh Tartir.....	نمک طرطیر	Europe	Do.	50
Cucumber seed	بزرالخیار	Bezr el Khiyar	تخم خیار	Baghdad.....	Do.	20
Cummin seed.....	کمون	Kammun	زیره	Baghdad	Do.	40
Dill seed	بزرالریحان	Bezr er Rihan.....	تخم ریحان	Baghdad.....	Do.	16
Dragon's blood	دم الاخوین	Damm al Akhuwayn.	خون سیاوشان	India	9 oz. Troy.	100
Endive.....	هندباء	Hendeba	کاسنی	Persia.....	....	..
„ seed	بزرهندباء	Bezr Hendeba.....	تخم کاسنی	Persia.....	3 lbs. Troy.	20
Epsom salts	ملح فرنگی	Melh Frangi.....	نمک فرنگی	Europe	Do.	120
Euphorbium	فرفیون	Farfayun.....	فرفیون	Persia.....	Do.	40
Fennel.....	بادیان خطائی	Bodyan Khatai	بادیان خطائی	India	Do.	60
Fenugreek	حبه	Hobbeh	شنبلیه	Baghdad.....	Do.	5
Figs.....	تین	Tin	انجیر	Baghdad.....	Do.	20
Flea-wort	قطونیا	Kotuniya.....	اسفرره	Persia.....	Do.	10
Fois grapes	عنب الثعلب	Enabeth Thaleb	سک انگور	Persia.....	Do.	16

English Names.	Arabic Names.		Persian Names.	Whence procured.	Price	
					Per	Rate in Riege Piastres.
Galls	عفص	Ofes	مازو	Kurdistan	3 lbs. Troy.	24
Gamboge	رب ريوند	Rabb Ruind	عصارہ	India	9 oz. „	60
Garlic	ثوم	Thum	سیر	Baghdad	3 lbs. „	8
Gentian	جنطيانا	Jentiana	جنطيانا	India	72 grains.	4
Ginger	زنجفيل	Zenjefil	زنجبيل	India	3 lbs. Troy.	20
Gum Ammoniac	وشق	Wushak	اشق	Persia	Do.	20
Gum Arabic	صمغ عربی	Samgh Arabi	صمغ عربی	Baghdad	Do.	40
„ Galbanum	كسنی	Kasni	.....	Persia	9 oz. „	14
„ Koordish	صمغ كردی	Samgh Kurdi	.....	Kurdistan	3 lbs. „	10
Hemlock	بزرالبنج	Bezr al Benj	بذرالبنج	Persia	Do.	40
Honey	عسل	Asal	شهد	Kurdistan	Do.	30
Iron, Sulphate of	زاج	Zoj	زاج سياه	India	Do.	16
Jalap	چلپا	Chalpa	.....	India	Do.	400
Jujube, red	عناب احمر	Enab Ahmar	عناب	Persia	Do.	10
„ black	عناب اسود	Enab Aswed	سپستان	Persia	Do.	10
Juniper	ابهل	Abhul	ابهل	Baghdad	Do.	40

Kino	قاطر مكى	Katar Mekki	.....	India	9 oz. Troy.	100
Lac	لك	Lokk	لاک	India	3 lbs. „	30
Leek	كراث	Kurrath	ترہ	Baghdad	Do.	10
Lettuce seed	بزر الخس	Bezr el Khass	تخم کاهو	Baghdad	Do.	20
Lime	نورة	Nurah	اہک	Baghdad	Do.	4
„ juice	ماء لومى	Ma Lumi	آب لیمو	Baghdad	Do.	20
Linseed	بزركتان	Bezr Kittan	تخم کتان	Baghdad	Do.	10
Liquorice, extract of	ربّ السوس	Rabb es Sus	قرہ مہک	Aleppo	72 grains.	1
„ root of	اصل السوس	Asl es Sus	ریشہ مہک	Baghdad	3 lbs. Troy.	5
Melons, common	قدومه	Kadumeh	قدومه	Persia	Do.	40
„ mash	ورد خطمى	Werd Khetmi	کل خطمی	Baghdad	Do.	20
„ „ seed	بزر خطمى	Bezr Khetmi	تخم خطمی	Baghdad	Do.	40
Manna	منّ	Mann	کز	Persia	Do.	120
Mastic	مصطكى	Mastaki	مصطکی	Constantinople	72 grains.	2
Mercury	زيبق	Zaybak	سیماب	India	Do.	1½
Mulberries	تكى	Tuki	توت	Baghdad	3 lbs. Troy.	30
Musk	مسك	Musk	مشک	Persia	72 grains.	80
Mustard	خردل	Khardel	خردل	Baghdad	3 lbs. Troy.	10
Myrrh	مُرمكى	Murr Makki	مُرمکی	Mekka	Do.	60

English Names.	Arabic Names.		Persian Names.	Whence procured.	Price	
					Per	Rate in Riege Piastres.
Naphtha, black	نفط اسود	Naft Aswed	نفط سیاه	Persia & Baghdad.	3 lbs. Troy.	10
„ white	نفط ابيض	Naft Abyad.....	نفط سفيد	Persia.....	Do.	50
Nitre	شورة	Shurah.....	شورة	Baghdad.....	Do.	10 to 30
Nutmeg	جوز بوا	Jauzbua	جوز بوا	India	Nut.	1
Nux Vomica	جوز القی	Jauz el Kayy	جوز القی	India & Persia ..	72 grains.	4
Oil of Almonds	دهن لوز	Dehn Lauz	روغن بادام	Baghdad.....	Do.	1
„ Linseed.....	دهن كتان	Dehn Kittan	روغن مذرک	Baghdad.....	3 lbs. Troy.	45
„ Olives	دهن زيتون	Dehn Zeytun	روغن زيت	Baghdad.....	Do.	40
„ Peppermint	دهن نعناع	Dehn Nana	جوهر نعنا	Baghdad.....	Ounce.	60
„ Sesame	شيرج	Siraj.....	روغن كنجد	Baghdad.....	3 lbs. Troy.	40
„ Turpentine	ترامنتين	Taramentin	ترامنتين	Kurdistan	Do.	14
Olibanum.....	علك البان	Elk el Laban.....	علک البان	Kurdistan	9 oz. „	16
Opium	افيون	Afyun	تریاک	Smyrna & Persia.	72 grains.	5
Opoponax	جواشير	Jawashir.....	جوشير	Persia.....	3 lbs. Troy.	60
Pepper, Black.....	فلفل اسود	Fulful Aswed	فلفل سیاه	India	Do.	30
„ Cubebs	كبابه صينی	Kubabeh Sini	كبابه چينی	India	Do.	60

„ Red	فلفل احمر	Fulful Ahmar	فلفل قرمز	India & Baghdad.	Do.	30
Peppermint	نعناع	Nana	نعنا	Baghdad	Do.	20
Pomegranate flowers ..	ورد رمان	Werd Rumman	گل انار فارسی	Baghdad	Do.	20
Poppies, black	خشخاش اسود	Khashkhash Aswed..	خشخاش سیاه	Persia	Do.	30
„ white.....	خشخاش ابیض	Khashkhash Abyad..	خشخاش سفید	Persia	Do.	30
Prunes	الو بخارا	Alu Bukhara	الو بخارا	Persia	Do.	30
Purslain	برین	Barbin	خرفه	Persia	Do.	20
Quince seed.....	بزرسفرجل	Bezr Safarjal	بهدانه	Persia	Do.	30
Rhubarb	ریوند	Rawend	ریوند	Smyrna	Do.	400
Rosemary	اکلل الملك	Eklil el Malek.....	ناخنک	Baghdad	Do.	10
Safflower.....	عصفر	Asfur	کل رنگ	Persia	Do.	30
Saffron	زعفران	Zafaran	زعفران	Persia	72 grains.	4
Sagapenum	سکبینج	Sokapenj	سکبینج	India	3 lbs. Troy.	40
Sal Ammoniac.....	شنادر	Shenader	نوشادر	India	Do.	80
Sarsaparilla	عشبه	Ashbeh	عشبه	India	9 oz. „	100
Scammony	سقمونیا	Sakmuniya	سقمونیا	Egypt	72 grains.	80
Soda, Carbonate of, impure	قلیا اسود	Kalia Aswed	قلیای سیاه	Baghdad	3 lbs. Troy.	6
„ pure.....	قلیا ابیض	Kalia Abyad	قلیای سفید	Baghdad	„	„

English Names.	Arabic Names.		Persian Names.	Whence procured.	Price	
					Per	Rate in Riege Piastres.
Spikenard	سنبل الطيب	Sinbel et Tib	سنبل الطيب	India	72 grains.	2
Sponge.....	اسفنج	Esfinj	ابر	India	Do.	3
Star Anise	باديان رومى	Badiyan Rumi.....	باديان رومى	India	3 lbs. Troy.	60
Sulphur	كبريت	Kebrit	كوكرد	Kurdistan	Do.	20
Sweet basil	فرنجمشك	Franjemushk	فرنجمشك	Persia.....	Do.	40
Sweet flag	قصب الزويرة	Kasab ez Zuwayrah..	قصب الزريرة	India & Persia ..	Do.	40
Tamarinds	تمرهندى	Tamr Hindi.....	تمر	India	Do.	14
Tragacanth	كثيرا	Kathira	كتيرا	Persia.....	Do.	20
Turmeric	كركم	Kurkum	زرد چوبه	India	Do.	24
Verdigris	زنجار	Zinjar	زنكار	Aleppo	Do.	500
Vinegar	خل	Khall	سركه	Baghdad.....	Do.	10 to 12
Violets	ورد بنفشه	Werd Benefsheh....	كل بنفشه	Persia.....	Do.	80
Wax, bees'	شمع عسل	Shama Asal.....	موم	Kurdistan	Do.	90
Wild Rue	حرمل	Harmal	اسفند	Baghdad.....	Do.	5
Zinc, oxide of.....	توتيا ابيض	Tutya Abyad	توتياى سفيد	Persia.....	Do.	40

(Signed) FELIX JONES.

NOTES

ON THE

TOPOGRAPHY OF NINEVEH,

AND THE OTHER CITIES OF ASSYRIA;

AND ON THE

GENERAL GEOGRAPHY OF THE COUNTRY

BETWEEN

THE TIGRIS AND THE UPPER ZAB;

FOUNDED UPON A TRIGONOMETRICAL SURVEY MADE IN THE YEAR 1852, BY ORDER OF THE GOVERNMENT OF INDIA.

BY

COMMANDER JAMES FELIX JONES, I.N.,

SURVEYOR IN MESOPOTAMIA.

TOPOGRAPHY OF NINEVEH, &c.

WITHIN the last decade of years, the museums of France and England have been enriched by numerous monuments of Assyrian art, that clearly show the soil from which they were obtained was peopled by a race who, to its warlike habits, added many of the refinements of civilised life. The researches of Botta and Layard—so far as lapidary tablets are capable of conveying the economy of a nation—have familiarised us in some measure with the public rites and ceremonies of the Assyrians, as well as given an insight into their more domestic concerns; and the pens of these travellers have further elucidated the subject in a manner of which the praise of the public is guarantee to the ability displayed, while the monuments themselves, as patents of their energy, remain in the capitals of Europe, until, in the course of time, they share in the fate of their Assyrian predecessors. Profoundly indifferent, however, to such an event, our *savans* are in the mean time labouring to unravel the mystic characters engraved on the records so lately revealed to us; and such is the progress made, that we may shortly expect to be as cognisant of the deeds of the "stout-hearted king and the glory of his high looks,"* as we are conversant with the celebrities of Greece or Rome. The only desideratum wanting, it appears, to complete the picture of Assyria, is a faithful sketch of her aspect in desolation, when she is "empty, and void, and waste; when flocks lie down in the midst of her; and when her rivers are opened, and her palace is dissolved."† This we have endeavoured to supply in the three maps of the vestiges of Assyria, made from actual survey of the spot. Topography, however, is a dry subject, and we enter upon it with diffidence and reluctance.

The third sheet of the vestiges of Assyria is intended to convey a general idea of the region where flourished the principal cities of the Ninevite kings. On it the relative positions of Nimrud and Khorsabad will be readily seen, with those of Nineveh and other remains more recently recognised as belonging to the same period. We may infer

* Isaiah x. 12. † Nahum ii. 6, 10; Zephaniah ii. 14.

that, in its local features, the region cannot have materially changed since the era in which Nimrod, Asshur, or Ninus, migrated from the plains of Babylonia* to found a dynasty and a kingdom beyond the Zab. The great mountain ranges of the Taurus to the north, and Zagros to the north-east and east, in this region sink almost imperceptibly into plains traversed at certain intervals only by slight ridges which, having a direction parallel to the sides of the greater chains, just rise in lines above the soil or crop forth only in undulations† of varying height, from WNW. to ESE. Eastward of the modern Mosul these ridges are mostly depressed and broken, offering outlets to the pent-up mountain streams which unite to form the Upper Zab, as well as to give passage to other tributaries, principally winter torrents and minor rivulets, that issue from the Jebel Maklub, of which the Khosr-su or Khorsabad stream is the chief. During winter rains this becomes an impassable barrier, while at other periods it is fordable in most places. It falls into the Tigris, in latitude 36° 21′ N., just opposite the modern Mosul; and the Zab debouches in the same way, in the parallel of 35° 59′ N., enclosing, between its broad shingly bed and the Khosr stream, a highly arable plain, diversified, here and there only, by gentle undulations and slopes. This plain, a somewhat irregular parallelogram in shape, and in extent twenty-five miles by fifteen, contains most of the Assyrian sites we are yet acquainted with. It has a gradual declination westward from the basis of the incipient mountain range of the Jebel Maklub and hill of Ayn-es-safra, which are the most prominent natural features in the Nineveh landscape. These, skirted on the NE. and E. by the Gomel or Ghazir-su, as by a ditch, defended the tract sufficiently on these sides, while the broad and rapid currents of the Tigris and the Zab protected it on the W., S., and SE. The Khosr rivulet on the N. and NW., insignificant as it naturally is, was rendered too a strong defensive barrier from invasion on these points, by artificial works, which we shall speak more fully of in a subsequent page.

It was thus an admirably selected position. Undulation and vale, ridge and plain, alike capable of tillage throughout the tract, offered a

* We use these names as the generally recognized appellations of the founders of the Assyrian monarchy. The Targums of Onkelos and Jerusalem supply, however, other readings for some of the proper names found in our version of Genesis x.

† The Hamrin, Kara Husseyn, and Kara Chokh ridges, are curious instances of these gradations from mountain to plain, leaving narrow but extended steppes of very rich land intermediate between them; we shall notice them more in detail in a future paper. The first bounds Mesopotamia to the NE., the latter terminates in the Sinjar group, dipping below the country west of Arbel, where the Tigris and the Zab course impetuously over its depressions.

sufficiency of pasture at most seasons. Crossed too as it is by the beds of many watercourses, and generously visited with dews and winter rains, it was then, doubtless, as now, a most fertile region. In the spring and autumn, when covered with verdure and wild flowers, it must have offered such teeming plenty with little labour, that man, naturally desirous of ease, could not fail to appreciate its bounties. The climate too, if unchanged since that period, was favourable to his feelings in the primitive state of his existence, and the summer heats, tempered by breezes from the adjacent mountains, were doubtless deemed cool in comparison with the torrid blasts he had experienced in the plains of Shinar; while the rigour of winter in the rugged country beyond him was equally unheeded and unfelt in the genial atmosphere of the steppes where he had determined on fixing his future abode.

Here then we may presume Nimrod, Asshur,* or Ninus, first established himself, and planned the erection of those cities and edifices, the monuments of which, after thirty-five centuries of time, have been abstracted piecemeal by the stranger, and borne off as the trophies of a nation then unheard-of and void. We shall notice these cities more in detail when the first and second sheets of the vestiges of Assyria come under observation. In our remarks upon them we shall endeavour to maintain the metropolis in the position where it is evident it was first designed, notwithstanding some pains have been taken to transfer it to other sites; and, at the same time, shall attempt to do away with the prevailing idea as to its vast magnitude, which, founded on the gross description of Ctesias, quoted by Diodorus Siculus,† has led many intelligent men astray in search of the stupendous walls wherewith that author begirts Nineveh. Even the mountain range of the Jebel Maklub, pronounced as "calcareous mountains" by a modern writer in one page, is made on the weakest authority "*the entire work of man*" in another; and, as such, is sought to be identified with the imaginary ample walls of the ancient city.‡ This range rises perhaps to 2,000 feet above the level of the Tigris, and, as we have before remarked, is the chief *natural* feature in the Nineveh landscape; we sought in vain for vestiges of such stupendous structures as Ctesias ascribes to Nineveh, and which indeed could not have existed on a soil such as

* This name would seem to imply that of the country, not that of the founder of the Assyrian monarchy, if the readings of the Chaldee Targums are to be adopted; and certainly the sense of the passage in Genesis x. is not done violence to, but, on the contrary, is maintained by these interpretations.

† Ctesias' fragments would appear to be loose in every respect. Plutarch, Aulus Gellius, Aristotle, and Joseph Scaliger, it would seem, estimate his character for veracity at a very low scale.

‡ "Nineveh and its Palaces," in the Illustrated London Library, pp. 83, 94, 97.

this without leaving traces of their presence, to a considerable extent.* The proof of this is in the remnants before us of minor structures of the period.

Independent of its connection with scriptural events, and with the themes which excited the inspiration of the prophets, the tract represented on Sheet III.† has high claims to the consideration of the scholar and antiquarian. Here are the mines which connect the present civilization with the history of the past; for all that we know of the early world, and all future knowledge that we are likely to derive, will doubtless be traced to the fortuitous occurrences recently enacted on this soil. Nineveh and its celebrities, as mere names, were just indeed discernible in the wake of subsequent historical events, when the spades of Botta and Layard revealed them distinctly to our view, and this too at an appropriate time, when enlightened minds were prepared for their study by long application to other records in a cognate character, though in a different tongue. To us, indeed, this concurrence of physical and mental energy appears more than a mere coincidence, and what may yet be disclosed to us, from the interpretation of the records still entombed in the 350 square miles of the district, we are at a loss even to conjecture; for while fresh tablets are being exposed as the work of excavation proceeds, cuneiform studies have acquired a stability which cannot but lead to success. Its claim to our regard, however, is not solely confined to the interesting discoveries but lately made by our travellers; the scene before us was the theatre of other renowned actions long subsequent to the struggles between the Assyrian and the Mede. Even when their names were as a proverb of the past, and England's fame lay buried in the future, this region between the Tigris and the Zab shone as the stage on which sovereign actors contended for the empire of the world. Darius here resigned his sceptre to the Macedonian, and Persia, after acquiring a second ascendancy, again fell before the victorious legions of Heraclius at the fatal battle of Nineveh. Mirwan, the last Khalif of the line of Ommiyeh, relinquished too his sovereignty and his life on the same field, and from this reverse a new dynasty arose, that of the Abbassiyin, whose power, emanating from Baghdad, governed the world for the long space of 520 years. The banks of the Khazir, the Tigris, and the Zab have indeed witnessed much bloodshed, and if thus consecrated to posterity, they are no less sacred as the early seats of Christianity, for the faith as taught by the first missionaries is not yet

* Layard's testimony is conclusive of the exaggeration of the ancient writers. See Nineveh and its Remains, vol. ii. chap. 2, p. 275; and Niebuhr, in his Lectures, discards altogether the evidence of Ctesias, when considering the historical value of ancient chronicles.

† These "Sheets" not being amongst the Government Records, copies are not given in this Selection.

wholly obliterated, though much distorted by immoralities and schisms. Five distinct creeds still flourish on the tract before us; in the Shebek and Yezidi faiths, we think, the first Chaldaic worship, terminating in subsequent Magian forms, may be traced; and the transplanted Israelite wanders, like the captives of Tobit's time, equally contemned and separate from his fellow man; while the Christian sects—perhaps from the persecution they have suffered—are distinguished as the most ignorant and boorish of all. The schools and colleges, both Mahomedan and Christian, once so celebrated here, remain only as mere names, while the distinguished works which emanated from the spot are either lost, swept off, or destroyed. In fact, in whatever way we contemplate the country presented to us, a vivid interest is excited, pregnant with heroic examples and moral lessons, adapted alike to the statesman, the soldier, and the priest. But we must quit the instructive pages of Assemannus and lay aside reflections suggested by the incidents related in the Anabasis and in writings of a subsequent age; our task is topographical description, and a laborious one we find it, for, embracing, as it should do, every subordinate feature with fatiguing precision, we cannot hope to escape the charge of prolixity, as well as that of venturing beyond our depth in endeavouring to relieve the monotony of geographical narrative.

As the nucleus of Assyrian dominion, we may denominate the territory shown in Sheet III.* as Central Assyria, for hence emanated the large possessions afterwards included in the several names of Athur, Asshur, Atur, or Assyria. It was known also to the older historians and geographers as a part of Adiabene (Αδιαβηνη), the name of the province watered by the Zab, or, as it was sometimes written Diab, or Adiab, though strictly speaking, perhaps, its proper appellation as a mere district of Adiabene was, as written by Strabo, Calachene; the term having reference to the period when Nimrud, or the Calah of Genesis, flourished as the chief city after the destruction of the *original Nineveh*. Nimrud, indeed, is still occasionally called Atur or Assyria, and was known as such to the Arab geographers.† We have pointed out in the paper on that place the probable manner in which these names become attached to Nimrud, from, as we believe, its being the latest inhabited city of the region, which in the cuneiform tablets is represented by

meaning, if we rightly understand Colonel Rawlinson, "the low country Atur or Asshur." These characters would thus represent generic terms for the land, in the same way as Shinar represented Babylonia; and the interpretations of the Chaldee Targums of Onkelos and Jeru-

* Vide the second note on the preceding page. † See Yakut, in his M'ajim al Buldan.

salem would then agree with the sense of the passage in Genesis x. 11, of "Nimrod going forth to build Nineveh," instead of Asshur the son of Shem, as read in our version of the Bible. Many learned men, among whom are some rigid divines, we believe, prefer this reading as agreeing with the context; and a passage in Micah, quoted by the author of the article on Assyria in Kitto's Cyclopædia, confirms this view of the subject. It runs thus, "They shall devour the land of Asshur with the sword, even the *land of Nimrod*," &c., designating the country as well as the accepted name of the founder of its primitive edifices. That such was a custom of ancient times, and pertains to this day in the east, is evident from the names being now indifferently used by the Arabs, who not only also characterize Egypt by its title of "Misr," but identify it equally as well by that of "Ardh Pharaoun," or the "*land of the Pharaohs*."

The conformation of the land and the positions of its chief edifices will be best seen from the map. We have no wish to recapitulate, but we must here express an opinion, contrary to those who have speculated on the exact form and dimensions of Nineveh, that it had no defined limit on the tract before us, such as Layard conceives it to have occupied in the area within the angles formed by the metropolis and Khorsabad at one, and Keremlis and Nimrud at the other extremity of the line.* On the contrary, we are disposed to view the Assyrian cities as placed where locally best suited to defence and convenience within the natural boundaries we have specified, without regard to any regularity on a grand scale, though the towns themselves, especially Nimrud and Khorsabad, in their order of alignment, bear evidence of much care in construction, as does the capital also, for the superior ends it was designed for. Led away by the gross relations of Ctesias, with reference to the size of the capital, and by its inferred magnitude from the pages of Jonah, the writer of Nineveh and its Palaces, a work published for the Illustrated London Library, in his second chapter has indulged too in an erroneous theoretical view based on the serious mistake of another sort which we have pointed out before,† and which indeed negatives his arguments, otherwise founded, as far as we can see, upon no system at all. We are sorry to expose these errors, but silence would only serve to perpetuate an hypothesis which must

* When this was written we understood Layard to mean these positions as forming the angles of a connected line of circumvallation around Nineveh; but we have since had reason to believe we have misinterpreted the sense of his remarks on this head, and that his conjectures on this subject agree with our own in a general view.

† In the opening pages of this paper. The work alluded to is from the pen of M. Bonomi; and though there is doubtless some good collated information in it, it is so generally pervaded with errors that it cannot be quoted as a guide for the attainment of Assyrian knowledge.

strangely mislead instead of instruct. Much labour, indeed, has been lost in searching for walls where it is evident none existed, and the most zealous missionary—were he to denounce aloud in the public streets, as Jonah is presumed to have done—would find an ample three days' employment in the capital and its immediate suburbs; or, were his mission but a simple visitation to the four principal seats in the Nineveh district, a modern curate, with no other incitement than his small pittance, would easily perform the journey and his task in the specified period; for the entire circuit is but 61½ English miles. We incline to the belief that Jonah's enumeration of its inhabitants has reference to the whole of the tract in our map, which includes a space of 350 square miles, and might accommodate a proportionate population of six or seven hundred thousand souls, including their abundance of cattle, with much ease.

In the opening page we have characterized the incipient mountain ranges of the Jebel Maklub and hill of Mar Daniel or Ayn-es-Safra as the chief natural features in the scene. The attention of the traveller is soon, however, drawn from these to observe and speculate upon the numerous tumuli which cover the plain in every direction around. These constitute the artificial points of the Nineveh landscape, and are represented in our map by dark shaded circles, such as distinguish conical peaks in chartography. These are all the undoubted work of the human race, but whether of the Assyrian period or of a Parthian era, there are at present some doubts. Some refer them to the latter, principally from the absence of anything tangible to theorize upon in the more regular tumuli, most of which, as we at present see them, being mere mounds of earth elevated in different places to heights varying from 20 to 80 feet above the plain. Others, such as the great pyramid at Nimrud, are found to be regular structures of sun-dried brick; observable only when the interior of the mound is arrived at, from the action of the elements on the outside having, in the course of time, reduced the material to the consistency and form of its original earth. The principal ones have square platforms, at present but little raised above the plain, though evidently connected in some way with the higher structures adjoining them. Though now rounded, and for the most part preserving a beautiful conical outline, we are disposed to think most of them were originally of a pyramidal form, the gradual crumbling of the apex and falling *débris* having served to obliterate the angles in the lapse of time. There can be no question, we think, of their purpose being other than for religious observances; as, from the earliest times, "high places" were deemed essential to these forms; and the custom, moreover, with little variation, is still perpetuated by every age and nation, whatever be the creed. From the days when

"Go to! let us build us a tower" were first uttered, eminences were preferred for sacrifice and prayer.* Traces of this preference still exist in the steeples of our own churches and the spires of our cathedrals; and the minarets of Islam, the pagodas of Burmah, China, and India, are, we conceive, but perpetuations of the "high places" of the Magi, which, perhaps, when artificial, were raised on the model of their archetypes, the pyramids in Egypt and the tower of Shinar.† Nimrud, in our eyes, has consideration, indeed, as the chief spiritual residence of Assyria, from the lofty and peculiar structure of its pyramid; while Nineveh, we conceive, is entitled to the temporal honours of the capital, in which the Ninevite sovereigns were simply monarchs, whereas in the former they would seem to have performed also the functions of high priests. At all events these structures have preference, we think, rather as Assyrian than Parthian relics, from the fact of the cuneiform inscribed brick being found in some of those that have been excavated; and we may, perhaps, identify much that is related by Diodorus Siculus,‡ concerning the works of Semiramis, in this respect, with the singular eminences before us; as well as of her descent from the mermaid-goddess Derceto, as yet, we believe, only found represented in the sculptures of Nineveh and Khorsabad. To continue the subject of these extraordinary piles. From the situation of some of them along the Khosr's course they may have served too as rallying points for defence. The principal ones north of the Zab, shown in our map, are those of Tel Chimeh (تل كمه), Tel Sabt (تل السبت), Khazneh (خزنه), Keremlis§ (كرملیس), Fadhliyeh (فضليه), Beibokh (بيبوخ), Nejmok (نجموق), Telthameh (تلثمه), Abbasiyeh (عباسيه), Tel Yara (تل يارا), and Chittel (چطل). The rest are comparatively small, and those of Tel Billa (تل بلا) and Sherif-khan (شريف خان), or "the city Tarbis,"‖ partake more of the nature of mounds covering considerable ruins than that of isolated eminences. The latter, indeed, has proved a temple of Sennacherib's, having been recently excavated at the desire of Colonel Rawlinson. These works, more than anything else, speak of the populousness of the district, and, indeed, of all Assyria; for they exist in every direction within the extended limits of that empire: every homestead appears to have had one attached; and if really for sacred practices, we may imagine the

* See Lucian on Sacrifices, 1—4. † Babel.

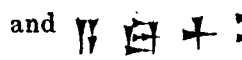
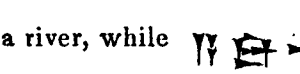
‡ Book ii. chap. 1. "She caused high mounds or eminences to be raised wherever she fixed her camp."

§ Evidently a religious edifice; this cuneiform name, according to Colonel Rawlinson, being that of a god of the period.

‖ of the cuneiform tablets.

sublimity of the scene presented by the assemblage of the congregations around the various altars in the open air. A signal by day, or the sacred fire at night, displayed from the chief sanctuary, might have prostrated the whole nation—under the great canopy of Heaven only—in simultaneous prayer. Beneath these eminences there yet exist two archaic treasures which, if excavations are continued, must be discovered. We advocate, however, more strenuous efforts for this end, for there is no knowing when the pleasure of the Porte may cancel the present firman in our favour, and leave us in the dark just at the time when some new phase in cuneiform readings requires the greatest light to be thrown on the subject. The old proverb, "make hay while the sun shines," is equally applicable to Assyrian harvests; and while the rays of Osmanli friendship are warm upon us we should gather in our crops, for there are other and jealous gleaners in the field.

The rivers of this region are classic streams, and, noticed as they are by writers of every age, they require little remark from our pen. Of the Tigris, enough has been said of its present locality in the succeeding papers; a bridge of boats at present spans it at Mosul, where a solid structure previously stood at no very distant period. From appearances above water it certainly looks like a modern work, and, we believe, has received repairs, even in the last century. Such a structure did exist, if we recollect right, when the legions of Heraclius crossed the Tigris to fight the disastrous battle of Nineveh, and the present remains may, therefore, be the identical piers over which that emperor, on his favourite horse Phallus, some twelve centuries back, marched to the conquest of Persia, then governed by a Sassanian monarch, whose ancestors may have constructed the bridge as necessary to their repeated designs upon the Roman frontiers in Syria and Asia Minor. That no bridge existed here in Alexander the Great's time we gather from the difficulty he experienced in crossing the Tigris,* though no enemy opposed his passage: and, we may presume, the spot was equally devoid of one in the most flourishing period of Assyria, from its absence on the sculptures, where, however, we have the name of the Tigris in the cuneiform little differing from the various names preserved to us at the present day. On the map, the characters representing it, as kindly furnished by Colonel Rawlinson, are

and  (signifying The River Hattikkar or Hattiggar), the first two letters being the determinative of a river, while  has reference, the Colonel

* He forded it in the autumn, not an easy task, even at this season. At others it is impassable on foot.

thinks, to the branch of the Tigris then washing the mounds of Koi-yunjik and Nebbi Yunus. As this river was so well known in the early ages we may well express some surprise at its being confounded with the Euphrates by many authors, particularly by Ctesias and Diodorus Siculus, at a later period. The error is easily accounted for, however, on other grounds than Ctesias being a proverbially loose writer, and we have in some measure pointed out the confusion as existing to the present time, in a previous paper* in the Geographical Transactions of Bombay. The fact is, this gross irregularity in the nomenclature has arisen chiefly from local events, and has been perpetuated by writers whose chief object appears to have consisted in collecting every amount of information, without critical examination of its value. It is as gross an error of speech *in situ*, at the present day, as it was doubtless in the age of our first historians. The error, indeed, is not confined to the vicinity of Mosul alone; it extends as far south as Samara on the Tigris, and is to be explained in our own day by the constant wanderings of the Dellim, the Jebour, and the Shammar,—the great tribes in Northern Mesopotamia—from the banks of the one river to those of the other. The Jebour, and the Dellim especially, own the large tract east of the Euphrates from the mouth of the Khabur to Felugia opposite Baghdad; and having drunk of its waters from infancy, it remains a cherished appellation, and with them a generic or normal one for most streams they meet with in their periodical wanderings to the Tigris in search of pasture, where it is considered more exuberant and of a better quality in the spring. Possessed too, as the tract itself now is, by a new people originally from the west of the Euphrates, which river they were familiar with, the name has become in a measure patent for the Tigris with the lower classes in the towns, not excepting the boat and raft-men who ply upon it, of every degree. To the Arab geographers and the less illiterate portion of the modern community, it is, however, well known as the Dijl or Dijleh (دجلة), the Hiddekel of Genesis, identically the Khali,† Hattikkar, or Hattiggar of the Cuneiform Tablets, and through the Greek Τιγρις, our form of Tigris. The ignorant Arab, moreover, while wrongly designating it the "Frat" or Euphrates, will readily admit his error if reasoned with on the real distinctive titles the streams separately bear. The confusion, indeed, appears to have originated very early in the constant changes which the country underwent during the incessant wars main-

* On the Median Wall of Xenophon and Position of Opis.

† This term, I believe, is still to be traced in the country; it is found applied to old water-channels. See my journey in search of the Median Wall and Opis, in Bombay Geographical Transactions. Khali and Chali are indifferently used at the present time for the old water-course so long confounded with the Median Wall of Xenophon, and known more generally as the Sid-i-Nimrud, or Nimrod's dike to the modern Arabs.

tained for extension of empire, in which the inhabitants of a region were, as captives, transported *en masse* to swell the distant possessions of the conqueror. The countries beyond the boundary of the Euphrates were ever the coveted possessions; and the Assyrians, we know, gained an extended frontier westward of that stream, whose population, as captives of war, thus carried with them to the banks of the Tigris, which they were subsequently to colonise, the associations and the names attached to the homesteads of which they were individually bereaved. The descriptions of Herodotus, Xenophon, and Arrian are, however, testimonies too strong to affect our positions in favour of a change, even were we unable to point out the mode in which such and other discrepancies prevail in the pages of Ctesias and Diodorus.

The Upper Zab is the next principal stream in our plan. Having its source in many tributaries from the Kurdistan mountains,* it falls into the Tigris over a broad shingly bed, interspersed with several islands, in latitude 35° 59′ 30″ north. There is evidence in its banks that it flowed in a more confined space in early times, its occasional fierce character as a mountain stream coursing over a hard bed having now widened its valley to an extent in places equal with the Tigris, though in the autumn it is insignificant enough. This extent of valley has rendered it difficult to bridge, and in no place is the poverty of the Turkish government so conspicuous as it is in the passage of the Zab, where, on the main road to the principal cities, we have, as a means of crossing, but a couple of rickety rafts of nine feet square, worked by a few Yezidi Kurds in connection with the miserable hamlet and post-house located at the Kellaks of our map, where the road from Baghdad, past Arbil, leads on to Mosul. Wretched as the site is at present, the occurrences connected with the second name invest it with an interest singularly pleasing to the traveller, for, unchangeable as things are in the east, these spots doubtless mark the identical fords passed by Alexander the Great, in pursuit of Darius. Here, indeed, we may presume the conqueror encamped to refresh his weary followers after the battle, which, so far as conjecture and history guide us, was fought on the tongue of land intermediate between the Zab and its tributary, the Khazr.

The army of Darius, we imagine, occupied the superior portion of the gentle slopes leading from the summit of the tongue to the Khazr's bed, which stream is recognised by philologists as the Bumadus of Arrian's history, through its modern name of Gomel, as used in the north districts of its course, by the simple and prevalent interchange of the B for the Γ and δ for the λ in the name.† Gomel or Gomelus thus becomes Bumadus; and the Gaugamela, where Darius was encamped,

* "Sogdian mountains" of Arrian. † Colonel Rawlinson, we believe, holds this opinion.

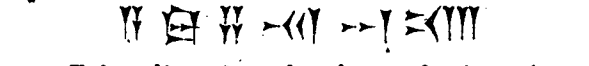
may with more certainty be identified with the actual name of the stream, although Rich questions such an inference, suggested first, we believe, by the celebrated Rennell. The present Tel Aswad may, therefore, mark the site of the Gau of this tributary, whatever its own signification may be. At all events, Arrian's distances of the armies from each other and descriptions of the locality coincide in a remarkable manner with the present features. Sixty stadia's length westward on the main road would place Alexander's army in the depressed plains around Keremlis, shut out by the intermediate elevations which, skirting the west bank of the Gomel or Khazr, connect the heights to the right with the hill of Ayn-es-Safra and the Maklub range to the left. A large army encumbered with chariots and armour could only follow this road, even if Darius had not selected a position, unfavourable as we think it, between the two streams, one of which, the Zab, difficult of passage, was in his rear. Doubtless, personally he had the means of retreat across it, and to this, perhaps, his defeat may be ascribed, for he was in evident alarm at the character of his adversary, or he would not have permitted him to pass the Tigris with the impunity he did. It may be, however, that Darius himself had reached thus far only on his road to oppose him, and a fortuitous event, perhaps, aided in accomplishing his overthrow. But we are digressing while endeavouring to point out "*the hillocks lying in the middle*" *which hindered the army of Alexander seeing their opponents when at the distance of sixty stadia*, and will conclude this part of our subject with a reference to the map, where it will be seen an advance of the thirty stadia, mentioned by Arrian, would place the Greeks on the level of the ridge just east of the artificial tumuli Tel Amir and Tel Husseyn, in "*full view of the barbarians*," where the great council of war was held, and where Alexander exhorted* his captains and followers to maintain their ancient valour in the field, which was so soon to destroy the prestige of the Persian name, and revolutionise all Asia for two subsequent centuries at least.

Previous to this great event, however, there was another equally glorious to the character of the Greeks, in part enacted on the same soil. We allude to the retreat of Xenophon and the celebrated Ten Thousand through this territory. Though we have no tangible position described, we are at no loss to decide upon the exact point of the Greek's passage of the Zab. From the twenty-five stadia, enumerated in the Anabasis, as performed on the day of crossing, before coming to the valley and the villages west of the Zab, we are confident that the army forded the stream, which then bore the name of Zabatus, a little above its junction with the Ghazr or Khasr-su. This latter is undoubtedly identical with

* See Arrian's Expedition of Alexander the Great, book iii. chaps. 7 to 15 inclusive.

the "*valley formed by a torrent*," where the Greeks suffered so much annoyance by the enemy as to retard their advance; and there is no question of their subsequent positions on the region embraced by our map; for the harassed legions were evidently bending their steps to the Tigris, where at least one flank was safe from annoyance, after a diversion made to ford the Zab in the best available spot above the confluence of a considerable torrent, which rendered that river impassable in its career through the lower and softer soils below. They moved early on the following day, to give time for the passage of the Ghazr in face of an active enemy, whom, a little beyond, they defeated with some loss, thus enabling the march to be performed without difficulty for the rest of the day. Twelve geographical miles may, therefore, be fairly allotted to this performance, anxious as they were to proceed, yet vigilant and in battle array, and we accordingly lead them from the banks of the Khazr-su, at Ghaza-Khan Teppeh, in a direct line through the gently undulating valley, past the position of Khidr Elyas to the Tigris abreast of Nimrud, which ruin is too distinctly described in the Larissa of the Anabasis, to admit a doubt of its identity, though twenty-two centuries have elapsed. If, indeed, uncertainty existed it would be dispelled in the next position near Mespila, where the intermediate distance of six Parasangs can scarcely be more correctly defined; the "*Castle of the Medes*," or ancient Nineveh itself, being, by our map, a little under seventeen geographical miles.

The Zab, indeed, is a well-known stream, and abounds in beautiful fish, some of which attain a very large size, particularly the Firkh (فرخ), a good donkey-load, found also in the lower Zab, Diyaleh, and other streams emanating from the Zagros. Singular enough the name of Zab has from the earliest times been maintained to the present day. The Arab geographers and historians wrote it in the same way as it is found engraved on the cuneiform tablets, in terms meaning "the higher or upper Zab," the characters زاب العلي Zab al Ala, or زواب العلي Zuab al Ala, answering to the Assyrian,



pronounced as Zaba-elita by the learned Assyrian commentator. Xenophon gives it as the Zabatus, while other Greek writers name it as the Lycus, Λυκος, "the wolf," this being apparently a mere Hellenised form of Zab, which in the Semitic dialects, especially under the Arabic form of زواب زاب or ذب has the significations of "wolf" and "restless," such as is applied to the disorder created among flocks by the sudden approach of the animal of that name. The term, indeed, is quite characteristic of its wayward and suddenly impetuous energy when acted upon by hill thunder-storms. The province of Adiabene derived

its name also, it is supposed, from this and its sister stream, being in the Aramæan, according to the writer of the article on Assyria in Kitto, Chadyab, or Hadyab. We suspect, indeed, that mountain streams like the Zab and Khazr-su, *in the latter Assyrian dynasties*, bore a sacred character, from the labour taken to conduct them by the canal and underground tunnel represented in our map, originally emanating from Negoub, but afterwards extending below the hills from the banks of the Khazr-su to Nimrud, which in its observances as the chief asylum of religion, may have required the employment of mountain water thus brought, perhaps by a praise-worthy veneration, to this sanctuary; for the Tigris, even at the present time, is not so far distant as to necessitate the undertaking of such a work for the ordinary wants of life, when a canal dug in the alluvial plain from the bend of the river at Selamiyeh would, at any time, convey the fluid to the base of the great pyramid and the palaces to the west of the town. The eastern suburbs of Nimrud, also, isolated as they are from the *enceinte* of the original town, would seem to have risen in a subsequent age, as if designed for purposes connected with the great conduit terminating at the base of the mounds. The high cliff, through which the mouth of the aqueduct is tunnelled at Negoub, shows that the Zab originally ran deep on the northern bank, and maintained a constant stream in the canal. The river, however, it is evident, subsequently abandoned this work for the opposite shore as its bed gradually widened, and hence the continuation of the tunnel beneath the elevations which lead to the banks of the Khazr, which stream, we may suppose, was permanently dammed near its junction with the Zab, to turn its waters fully into the excavation. For the age it is undoubtedly a great work, and, moreover, bears testimony that the science of levelling was well known to the Assyrian people.* But a small portion remains at present entire at Negoub, the encroachments of the river having swept off the parts connecting it with the remnants near Gubbeyeh, in the course of time. It is neatly chiselled, through a hard sandstone and surface-conglomerate, to a depth, perhaps, of forty feet; the sluices and dams which regulated the supply of water being ingeniously formed from the original rock left standing in the centre. The work is referred to, we believe, in the Assyrian records; and an inscription formerly existed at Negoub, which, thrown down, has been carried off or broken by the parties employed in Assyrian desecration. At all events it no longer remains *in situ* to proclaim the name and charitable purpose of its founder, though these and its own title *have* been rescued

* Much ingenuity and hydraulic skill are here evident in the Assyrian people, the canal being, for eight miles, led contrary to the natural course of every stream in the district.

from oblivion; the latter we have furnished us by Colonel Rawlinson, as

Pati-kanal, the last word evidently the "canal" of our own language.* The Arabic Negoub (نقوب) is a mere modern appellation applied to it, as a tunnel or "hole" in the rock; and Kariz (كاريز), that of its connecting arm with the Khazr, is a compound Persian term in general use for subterranean water channels. The latter tributary of the Zab, in the country represented by the map, is generally known as the Ghazr, but the real orthography, as given by Yakut in the M'ajim-al-buldan, is Khazir (خازر), the former being a corrupted form of it, used only in speech.

The remaining stream of the region is the Khosr-su, the character of which is more minutely given in the paper on Nineveh. It rises in the elevations north of Khorsabad, but we were not allowed time to accomplish more than an imperfect survey of its course, from the west of that ruin to the Tigris. Indeed, for the same reason, we were compelled to abandon any lengthened operations at Khorsabad itself, though we were enabled to connect its principal features trigonometrically with its sister cities, in which work we derived all possible information and assistance from the kindness of M. Place, the French consul, then resident there. We observed, however, of the Khosr, that though at times a mere rivulet, its deep and tolerably wide bed, by shutting up its outlet at the margin of the Tigris, and supporting the accumulated waters by strong dams at appropriate positions on the gradations of the country, could be filled to any extent, and thus converted into an effective barrier against aggression from without. We are persuaded, indeed, that such a system of defence was adopted by the Assyrians for the protection both of the capital and Khorsabad, which places were doubtless insulated from approach by the simple retention of as much water as was necessary in the Khosr and its adjuncts around the latter city. This subject is, however, touched upon in our opening conjectures upon Nimrud, and we see no reason to alter the opinion we have hazarded regarding the necessity of establishing the mass of the population on this, naturally the weakest side of the district before us. On the contrary, we are more than ever impressed with the idea, purely on geographical grounds, that Khorsabad arose as a stronghold of Assyria simultaneously with Nineveh itself: though it has been generally held to have less claim to antiquity than other sites on the same soil. Of its sculptures and other works of art, considered with reference to the glory of the founder of the palace (Sargon), we have nothing to offer, but award its archaic honours from the earliest period, in consideration

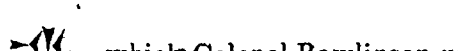
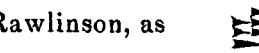
* See also Layard's Nineveh and Babylon, chap. xxvi. pp. 616, 617, and note §.

of the necessity for its position alone. After all, the palace of Sargon may consist only of an embellished suite of apartments, or a temple of a later period built upon, or adjoining to, the original structures.

Were we, however, to draw an inference of the age of Khorsabad from its monuments, we confess a desire to support our local arguments by the presence of the fin-tailed monster on its walls; which effigy exists also at Koyunjik, while absent from the sculptures obtained in Nimrud, as if out of its element there. Under its various appellations of Dagon, Odakon, Derketo, Atergatis, Oannes, and Noah, it seems pretty generally understood that the device subsequently worshipped in many parts of the east emanated in Babylonia, where it heralded the descent of the people from the patriarch of the flood; and as such, we may presume, in the chambers of Khorsabad and Koyunjik, typified the race of their founder as originally from the plains of Shinar. Semiramis is named by some authors* as the offspring of a mythic goddess of this nature, who, as a mermaid, may have represented the patriarch's wife, as did the merman, our second progenitor, Noah. At all events the symbol, in combination with these historical personages, has a signification of some value, perhaps, in the consideration of the comparative antiquity of Assyrian and Babylonian vestiges, and in the former place, may also serve as a relative index for determining priority of construction in its several edifices. Colonel Rawlinson, we are aware, has long held the opinion that the Babylonian vestiges in Southern Mesopotamia are those of the most early structures of the human race; derived partly from the history of the people and partly confirmed by his own observations on the spot.† We but allude to the figure in two of the Assyrian edifices as indicative perhaps of their being the first established positions in the region; as well as confirmative of our own ideas that Khorsabad was an outwork of Nineveh at the dawn of Assyrian existence as a colony. The lofty tumuli of Telthameh, Nejmok, Beibokh, and Abbasiyeh, erected at regular distances on the Khosr's course, and midway between the extreme posts, speak of a vigilance essential to the preservation of the dams which rendered the Khosr a sufficient bulwark against invasion.

* See Diodorus Siculus especially.

† Within the last few months other Babylonian ruins have been brought to light that were never before known to Europeans. Our active Vice-Consul at Basreh, Mr. John Taylor, escorted by his Arab friends, visited the most prominent of these, termed Abu Shehreyn. His journals are in the hands of the trustees to the British Museum, and there are not wanting people in every way calculated for such enterprise, who are ready to explore the region as soon as the authorities have settled the question. Let us hope the French are not the first in the field, as at Nineveh and Khorsabad.

from the north-west. In the inscriptions this stream is written and which Colonel Rawlinson pronounces as "the river Zakapbirati;" and the signs  have, he thinks, reference to the modern name Khosr خوسر, found in the geographical dictionary of Yakut. It is written indifferently by the moderns Khozr خوزر, and sometimes further corrupted to خسرو, Khusru. It has been thought too that Khorsabad derived its name from a permutation of the letters in that of the stream, but this is not the case, though the title Khorsabad is a corrupted form in itself, from Khurustabad خروستاباذ, as given in the M'ajim-al-Buldan of Yakut. This latter is the name of a village which grew on the spot long after the Assyrian period; but Yakut notices the older ruin, under the name of Sarghun, صرغون, which is found too on the tablets excavated by M. Botta, showing that the Assyrian name attached to the spot a few centuries back only. It appears on the cuneiform tablets, according to Colonel Rawlinson, as  , or "Dur Sargina;" but whether it ever possessed or not a previous title, must, perhaps, remain in the obscurity of the past.

We here close the more general description of the locality, to enter upon that of the capital, better seen on the large scale of Sheet I. Before doing so, however, we would call attention to the Appendix (No. 1), where the interested reader will find the names of the various places noted in Sheet III., written in the Syriac form, with both the proper and corrupt modes of writing their Arabic equivalents. It is scarcely necessary to add, that the more corrupt orthography and pronunciation are most in use, at the present day, among the lower classes; and the significations of some of them must be considered doubtful also, from the difference of opinion expressed in the country as to the true meaning of many of the terms.

Remarks on the Metropolis of Assyria.

Descriptive of the Capital, as shown in the first sheet of the Maps.

It is evident that in the selection of a site for "the great city," the founder of Nineveh was not actuated by chance or caprice alone; for

no little ingenuity has been displayed in taking advantage of the natural features of the country, so as to adapt them to the proposed end, that of protection and defence from the encroachments of his fellow-men. But before entering into the dimensions and details of the metropolis of Assyria, we call attention to it only as the principal city of the district included within the four streams shown in Sheet III., and distinctly specified in the paper accompanying it. We need not look, indeed, for the extended walls ascribed to it by Ctesias, for it is evident they never existed, except in the imagination of the writer; and the "exceeding great city, of three days' journey," enumerated by Jonah, instead of being, as is generally thought, corroborative of Ctesias' accuracy, is simply conclusive, we think, of the character of the Ninevite abodes, separate, yet contiguous to each other; for the term "journey," in our opinion, implies a going-out from one to the other,* for the necessary visitation demanded by the mission of the prophet. More will be said on this subject when we consider the identification of the spot bearing the name of Nineveh at the present day.

We have here only to remark that the implied population, from the metaphorical expressions of Jonah, could not be maintained within the circumscribed limits before us.

But that the worn-down mural structures of our map are those of the principal city of the region there is little doubt, and we infer therefore, as in other countries,† the capital derived its name from, or *vice versâ* gave its name to, the district where the founder first determined on fixing his abode. The phrase, "a great city," might indeed, with every propriety, be collectively or individually applied to either one or all of the Nineveh edifices; for it must be remembered, the people of the climates we are treating of were, from the earliest times, dwellers in tents, from the Nile to the Tigris; and walled enclosures, however diminutive, possessed, in their eyes, a relative magnitude which we cannot question in the present day.

* From Nineveh to Nimrud, in round numbers, is eighteen miles; thence to Khorsabad about twenty-eight, and back to Nineveh by the road fourteen miles.

† Exemplified in many counties of England alone: Yorkshire, Gloucestershire, Nottinghamshire, and others, where the "shire," as derived from the Saxon "scir," simply means a division, or separate territory, and the chief town took the name of its original lord, or first possessor. We have the same term in the Persian term "Shehr," شهر, "city," applied to separate congregations of men: and in the similar Arabic word we can perhaps trace the extended meaning of "renowned," or "wide-spread," a favourite title for illustrious cities, as well as personages, of the olden time. We are inclined, indeed, to consider that in the words Nineveh and Ninus we trace the name of Nimrud; the *m* and *n* in the middle of the names being common enough mutations in every language; while the terminations *eveh* and *us* are referable, perhaps, to Semitic and Greek forms, with which the learned may assimilate the meaning of "house," or "abode." Nimrud is supposed to be a compound name; the latter syllable in the Hebrew being expressive of the title of "rebel," or "mighty," in accordance with his character.

"Is not this Great Nineveh I have built?"* may be a pardonable exultation in the mouth of the Assyrian monarch who raised the first edifices over the heads of barbarian men; but, in the present civilisation of Europe, such language would be intolerant in prince or subject; for the simple reason that man is daily familiarised with progressive art, which enables him to conceive and behold the most stupendous objects with less admiration and astonishment. The superficial observer may, therefore, derive no interest from the dry topographical details of a spot more insignificant, in respect of size, than a second-rate borough town in Europe; still the associations connected with its foundation—its subsequent rise to power, and reverses to degradation—its monuments and records, but recently exhumed—must invest it with an importance that will attach even to the crumbled walls, which, for twenty-five centuries at least, have concealed the materials which fill up a large gap in the previous history of our world.

In considering the map of the capital of Nineveh† we must exclude from our mental view all human structures, and regard, at first, the natural features of the spot alone. Imagine the Tigris, then, thirty-five centuries back, confined by the cliffs now seen at Bash-Tabiyeh abutting further to the north-east, in a valley of two-thirds of its present breadth only, and for this reason attaining a somewhat higher level than it does at the present day, especially in the floods. As the dip of these countries is all southerly, fluid pressure will also, unless diverted by local irregularities, impinge on the southern curves of the land. This has led to the abrasion of the western cliffs, and diverted the Tigris from its original position, now occupied by the village of Armushiyeh. In the low season of the stream, from September to January, during those remote ages, let us regard it as occupying the curve it does now, just east of the wooded island, near where the road leads up the cliffs to Tel Keyf, past the tomb of Sheikh Ahmed-al-Kharaza.‡ From this point, to have flowed over the site of the modern village of Armushiyeh, at the season and time we speak of, it must have had its eastern margin just in the line now occupied by the south-western wall, the alignment of which we may presume was laid out along it; and, indeed, the gentle curve at the south-west angle of the city will warrant this inference alone. As the spring drew on, we can

* The quotation is here, perhaps, a little distorted, but is equally applicable to Nineveh as to Babylon. Sacred and profane writers agree in distinguishing it by the term "great," and in a poetical fragment of Diodorus Siculus, Νινος μεγαλη is employed to express its character as a city.

† Vestiges of Assyria, Sheet I. "An ichnographic sketch of the remains of ancient Nineveh, with the *enceinte* of modern Mosul."

‡ A Mahomedan doctor of some reputation in the neighbourhood, though we could not ascertain the precise nature of his claims for veneration.

readily conceive the rising water, bound in by the abrupt precipices of the right bank, extending its approaches more to the east, up the gentle incline, as far as the margin of what we term the spur, or lower crops, emanating from the undulations north of the city, until the highest annual level had been attained, in the season of our May. At this time we can picture to ourselves the steep cliffs north-west of the tomb of the modern Mahomedan Sheikh Kharaza, begirt to some height by the swollen and rapid Tigris, which, passing onwards, swept more gently into the inclined and shallow recess to the south-east, occupying the embayment as far as the mill of Armushiyeh, and beyond that place submerging, in its spring career, the then winter delta of the Khosr-su, with the low grounds now marked "swamp" in the map; covering at the same time the ground plots of Koiyunjik and Nebbi Yunus, then not raised, and filling the valley and ravine (No. 29), until checked by the rising grounds bounding them on the south, which its waters then embraced, in their descent onwards towards Yaremjeh. The hard sandstone cliffs north of Kharaza, as well as the softer sedimentary deposits forming the old river margin lower down, bear evidence of this water attrition in an unmistakeable extent.

Keeping in view this spring aspect of the Tigris in the early ages, when considering the natural form of the land at the period, let us quit the margin of the great river, and range eastward along the banks of the Khosr-su. As we progress across the spur it will be observed that the land, on either hand of the rivulet's course, has a gentle rise, until we stand on the position occupied by the east wall of the capital on the crest of the spur, and that the country declines to an extended hollow plain, before rising again into other lofty and more distant undulations beyond. From this point the general direction of the Khosr-su, to the gorge west of the ruined position of Hashemiyeh, is nearly north, keeping, however, a rather winding course through the hollow plain, terminating at the declivity of the crest, until it meets, and is diverted westward by, somewhat more elevated slopes, abutting eastwards from the position No. 11, where, if we take up a new position, we perceive that the Khosr-su, by channelling the land at our feet, can be led southwards along the east face of the spur into the vale and ravine delineated at No. 29. Turning northwards again, we skirt the crest of the spur to its junction with the low range from which it is thrown off, and with which a few cropping mounds alone connect it, separating, at the same time, the recess or bay on the west side from the hollow plain and bed of the Khosr-su on the east; while the original low range itself sweeps here to the east, as far as, and beyond, the gorge west of Hashemiyeh, where there are numerous ravines, so deeply furrowed by the action of winter torrents, that the designer of the city could not

fail to foresee and provide for the accessions to the waters of the Khosr itself, which must, as in the present day, have been at times wholly impassable; and, indeed, if happening conjointly with the season of flood in the Tigris—when we are contemplating our mental survey—the platform of Nineveh, for the most part, must have presented an unwholesome swamp. The words of Nahum,* "but Nineveh is of old like a pool of water," in reality would seem to convey the *primitive* aspect of the site at a certain season of the year.

To enter into detail as to the motives† for the selection would be, perhaps, a profitless task; but as we proceed we shall see the skill of the designer enabled him to convert the morass into a habitable position, strong enough in those days to defy the power of mankind, as well as to become the "treasure house" of the surrounding nations, which its people had despoiled.

We will now view the locality under the autumnal garb we consider it to have worn at the period we are discussing, when the waters of the Tigris had receded, and occupied, in respect to space only, the number of yards, as in breadth its bed does at the present day, but, in regard to position, the course we have pointed out two pages back. At this season, the stream of the Khosr, represented by an ankle-deep rill, slowly wound its way among numerous islands and shingle-flats in its bed; and the spur of cropping undulations, which under the spring aspect resembled an almost isolated peninsula, was now edged by a broad expanse of pebble and alluvium, deposits of the retiring floods. This is the period for operations, and the Assyrians, let us suppose, are gathered to the task. The cut along the east face of the spur, to the south, is rapidly completed, and a corresponding one, on the opposite side of the Khosr, to the north, is stretching its channel to the verge of the range, where the spur is thrown off, to meet a canal cut from the right bank of the Khosr, about a mile north of the gorge near the position of Hashemiyeh. This cut is the city moat (12), or inner ditch to the capital; and, where meeting the canal, is on a perceptibly higher level than the southern portions. To continue this ditch the spur is separated from the range it was attached to by a cut of nine feet deep, crossing it in a direction of south-west, from just above the junction of the canal to the east (No. 28) margin of the Tigris; its

* Nahum ii. 8.

† It will suffice, perhaps, to point out the Khosr channel as the weakest boundary of the district under review. The bulk of the population was here necessary to its defences; and in the angles formed by the Khosr's junction with the Tigris, the most convenient site was found for the capital, whether for trading purposes or for protection and defence. See also "Topography of Nimrud," where the subject is further considered.

continuation, south of the Khosr bed, stretching at the same time, with an easy decline, to the ravine at No. 29, which connected it in this part with the Tigris also.

While these excavations were proceeding, the walls of the capital, we may presume, were being fashioned of sun-dried bricks out of the earth extracted from the trenches, and of blocks of stone, which, we believe, on further examination, will be found forming their *basement* throughout the alignments of the city; for, in most parts where the wall has been dug into, neatly hewn blocks of limestone have been extracted, and, indeed, may be passed on the surface of the soil around. Their regular cut surfaces lead us to conclude, however, that if the Babylonians, under Nimrod, first founded the city, the walls must have been fashioned by the expert masons of some other land, where lapidary science and the tools necessary to it had already attained to a respectable standard, which could not have been acquired by the founders themselves, whatever may have been their skill in the construction of ordinary bricks, which they had doubtless some experience of from Babel tuition, under the discipline of a Nimrod, in the plains of Shinar. At all events the perfect form of these cubes of masonry, combined with their singular position—if they do really exist throughout the foundations of what has been considered by some as the archetype of cities—would point to an architectural era long antecedent, perhaps, to the foundation of Nineveh.* We believe the question has been already settled by the learned in favour of the antiquity of Egypt. The subject is still, however, curious and interesting, considering the author of the Pentateuch (himself an Egyptian), in the pages of Genesis, accords to Mesopotamia and Assyria the geniuses of design and execution in the establishment of permanent abodes. This is, however, a digression from the subject in hand.

The excavation (No. 12) is prepared, we infer, for the reception of the Khosr and the protection of the city. As soon, therefore, as complete, let us imagine a dam (No. 27) of massive stones being carried across the bed of the Khosr so as to connect the ridge of the spur separated naturally by its current. The Khosr—or at least a part of it—thus turned into the new channel, joins the Tigris by the ravine at No. 29; the remainder, by partially damming the stream further to the

* Xenophon, in the famous Retreat of the 10,000 Greeks, notices a plinth of polished stone, forming the lower parts of the walls of the Median city, which is identical with that before us. He adds, however, it was full of shells; and this statement can be verified by the curious in the present day. The conglomerate is a predominant feature in the excavated ditches, and an artificial concrete, in many places forming a facing to the scarped sides to prevent water attrition, is traceable also in many parts.

north, filling the canal extending from its right bank to No. 24, and there bifurcating, one branch occupying the cut separating the spur from the range (Nos. 12 and 23), the other coursing down the decline to the south to join the pent-up basin in its bed at the dam, where, unsupported, during the freshes of spring and in heavy winter rains, there must have been a pressure threatening considerable danger to the growing city. This was, however, provided for, and the risk much lessened, by erecting other substantial dams* (27, 27, 27) in advance of the main one; and a semi-lunar fosse, with a sluice gate,† of slightly irregular form, named in the map; the central ditch (No. 13) would seem to have been subsequently added for further security against floods. It has a deeper channel at its head than the city moat (No. 12), but, where it was conducted into that aqueduct below No. 11, the former becomes increased both in depth and extent.

It is evident, however, that these outlets were deemed at times either insufficient in magnitude for the purpose, or that danger from without required a stronger bulwark to guard against the surprise of an active enemy, by the formation of the great eastern ditch and rampart, No. 14 of the map. This in itself, for the age we speak of, is a work of great magnitude, considering it is cut for upwards of two miles, with a breadth of two hundred feet‡ through a peculiarly hard and compact siliceous conglomerate, perhaps the very worst of all soils to excavate and remove, for neither the pick, the chisel, nor the spade can be used with advantage in it. This ditch occupies the whole breadth of the flat or hollow at the base of the spur, the rampart thrown up on its east side acting as a great barrier to the Khosr's further progress eastward, and at the same time, by a sweep at its north extremity, enclosing the ravines at No. 26 so as to accumulate their supplies as well as carry off all redundancy in extraordinary floods of the Khosr. Thus the defence of the city on the land or Median side was amply provided for by shutting the great dam, which, we may infer by the remains, existed at No. 29, so as to close

* Remains still exist.

† See dam in fosse just below the Ayn-al-Demlamajeh. The other outlets appear also to have had dams and sluices for arresting the rapidity of the current in its descent into the ravine at No. 29; the places they occupied are shown in the map. At No. 23, where the spur has been separated from the range, for the reception of a part of the Khosr waters brought by the canal to No. 24, the obstructions are placed teethwise from either side of the bank, to check the velocity of the torrent in its passage over the spur, before descending into the low recess beyond the cliffs.

‡ The east bank is the great rampart facing the plain beyond. It varies in height from sixty to eighty feet above the level of the bottom of the ditch at the present day, though roads have led over it for many centuries back. It is formed from the excavated soil of the channel at its base.

the space between the south wall of the city and the tertiary ridges rising immediately southward of it. In this way, not only the three excavated channels forming the defences south-east of the Khosr's bed would be filled, but, if necessary, the large open space including the bed of the Khosr to the north of the dams (27, 27, 27) might be converted into a lake extending from the east wall of the city to the great rampart beyond the outer ditch, by simply preventing the further discharge of the Khosr's water through the canal No. 24 into the Tigris at No. 28 of the map. The pressure, indeed, on the dams (28 and 29) at the margin of the Tigris was doubtless very great under such circumstances, but, we may presume, it could be relieved by sluices at any time; and the cross dikes, acting like lock gates in the canals themselves, would prevent the whole force weighing on these positions alone. Appearances too in the present road to Khorsabad, crossing to the north-east angle of the city from immediately north of the great mound of Koiyunjik, convince us that the eastern ditches and canal of the Khosr had here an outlet to the Tigris also, though at present, by the crumbled wall near No. 24 having filled up the bed, we do not observe the actual point of connection. Immediately within the wall, however, and around the mound of Koiyunjik, the bed is well marked that must have isolated the palace of Sennacherib from the adjacent quarters of the town. This branch, separating into two arms at the north-east angle of the Koiyunjik mound, fell into the Tigris to the west, and into the delta of the Khosr, then, as we have often repeated, near the mill of Armushiyeh. The water defences, therefore, could not have been more perfect; and the beauty of the landscape must have been considerably enhanced by their variety and disposition.

Having, as far as we are able, described the locality and the system adopted by the Assyrians for turning the natural streams into artificial defences, let us consider the *enceinte* of Nineveh itself. The principal wall is evidently that on the east side; it is raised on the crest of the spur of rock selected for the site of the town, and forms a slight curve, in the natural direction of the rock, with its convexity to the north-east by east. That the wall was originally continuous, the remains of the great dam in its line, as well as the water-channels to the south-east, leave no cause to doubt. It is now, however, ruptured, and the Khosr again flows in its ancient bed. From the Khosr the portion of the wall northwards is the highest and most considerable in respect to dimensions, averaging, in its present crumbled state, forty-six feet above the actual soil, which, as the crest of the spur, is of course more elevated than the surrounding land. A slope, partly legitimate, partly *débris* of

wall, forms a glacis of one hundred and thirty feet horizontal width on to the city moat in this part, which latter is ten feet in depth; and at No. 25, where there appears from the existing ruins to have been an outwork, the water admitted to it would seem to have passed beneath a bridge to its connection, as well as to have been carried around the east side of the outwork itself. This portion of the wall is 6,800 feet in length, while that south of the Khosr, varying little from it in height and breadth, is 9,200 feet long, having, at 4,000 feet, where the main road to Baghdad now passes through, two tumuli more elevated than the adjoining parts, from which much fine masonry, bearing cuneiform legends, has been extracted. At 7,850 feet from the Khosr is another elevation, which probably contained also a loftier edifice, that would seem, from the dam in the bed of the moat, to have acted as a keep to the work, as did the buildings enclosed by the tumuli to similar dams lying just eastward of them in the moat, as well as in the beds of the central and eastern ditches beyond; for a covered way to all appearance led from the walls to the open platform or semi-lune adjoining, on which, in time of invasion, could be assembled a large force for the protection of the dikes, the only vulnerable points exposed to an enemy. The outwork at No. 25 from its position would also imply its formation for a similar object connected with the dams in the canal and moat to the north of the city.

The north wall of Nineveh lies across the neck of the spur cropping from the undulations to the north, and extends from the north-east angle of the city to the Tigris, in a direction perfectly straight, of S. 55° W. from the true meridian. Its length is 7,000 feet exactly; of which 2,333 feet is carried over the rising ground, the remainder falling with an easy decline to the margin of the Tigris, here, at the present time, so far as we can judge, in the same position as it held when the city was marked out. At the same distance of 2,333 feet, being precisely half way between the elevated structure on the ridge and the north-west angle of the city on the Tigris, is the position of a gateway with a road, at present, as perhaps in olden times, leading to the pass ascending the great mound of Koiyunjik. On the east of this gateway, which, to distinguish it in the map, is named "the porch of bulls," is an elevated circular mound covering some splendid specimens of colossal sculpture, homotaurs, and other sacred figures, that, in their singular position, quite hid from view until frowning above you, occasion sensations which to transcribe would be at variance with topographical detail. From this point another 2,333 feet concludes the northern wall, here broken and much worn down by its contiguity to the river. Masses of stone, imbedded in the soil beyond the angle of the city, point to the dam (No. 28) that retained the water in the moat

to the north. This wall, seen in section, has an uneven summit from being raised over the inequalities of the natural rock we have pointed out near No. 23, which numeral shows the position of the toothlike obstructions in the cut, for breaking the velocity of the current of the canal in its descent into the lower ground.

We now come to the west face of the city, which, according to our view, was originally washed by the Tigris.* From the north-west corner to a culminating point of the wall on the bed of the stream, north of the Koiyunjik mound, is 3,500 feet; its alignment for this extent being at *an accurate right angle* from the north wall we have just described. This portion is broken by several gaps, worn through by the footsteps of men and animals during centuries of progress, and its dimensions compared with the eastern wall are inferior and low. The area comprised within the angle of the walls and the embayment formed by the rising grounds of the spur, we have characterized before as originally a swamp; but after the erection of these ramparts as a defence against the river, it appears to have been appropriated as the quarter for the more stable buildings, perhaps those of the notables of the city, judging from the *débris* of edifices and other signs within. The former forms only the northern of the three portions which comprise the western wall of Nineveh; for the great mounds of Koiyunjik and Nebbi Yunus, covering the palaces and temples of its kings, occupy considerable spaces in the structure. The central portion is that extending south of the Khosr to the mound of Nebbi Yunus in a line of S. 40° E. for 2,700 feet; and the southern or third, forms a slight curve, then evidently along a sweep of the river, to the south-west angle of the city. This latter wall is 4,000 feet long, but of somewhat more irregular construction, being low and broken by gaps, as the rest are, converging at the same time towards the great eastern wall, which is separated only from its southern extremity by a transverse wall of 3,000 feet, meeting it in a direction of S. 6° E.

In more general language the *enceinte* of Nineveh may be said to form an irregular triangle,† having its apex abruptly cut off to the south. The sides of this figure have a length respectively in the order described as follows,

* In the inscriptions this portion of the stream seems as if represented by Colonel Rawlinson, however, cannot yet decide on the subject; but gives as more general terms for the Tigris, the cuneiform equivalents and the Hatikkar and Hatiggar of English orthography, the Τιγρις of the Greeks, and the Tigris of our own geography.

† With more propriety it should be termed a trapezium.

	Feet.
The east wall	16,000
The north wall	7,000
The west wall, including space occupied by the great mounds of Koiyunjik and Nebbi Yunus	13,600
The south wall	3,000
Making a total circuit of	39,600

or 13,200 yards, equal to seven miles four furlongs of English statute measure; just *one-eighth* of the dimensions assigned to the city by Diodorus Siculus.*

The contained area of the quadrangle of Nineveh from the above measurements is 8,712,000 square yards, or 1,800 English acres of land; and if to an inhabitant of a city be allotted fifty square yards in the computation of a census, the capital Nineveh would have accommodated a population of one hundred and seventy-four thousand souls only.†

But of the existing remains of Nineveh, the most remarkable and interesting are undoubtedly the great mounds bearing, at the present time, the appellations of Koiyunjik and Nebbi Yunus. These, as monuments of man's labour and decay, have towered above the plains of Assyria, perhaps in their present form, for twenty-five centuries of time.‡ Their positions with respect to each other and to the north-west and south-west angles of the city will be observed to have been designed, for their centres on the alignment of the western wall are equidistant from one another, and from the named points also being, in fact, placed at each intermediate third of the entire length of the face of the capital then bordering on the Tigris. Koiyunjik§ is the most consider-

* The fragments of Ctesias which Diodorus quotes would seem to be loose in every respect.

† About a fourth only of the number computed by those who have considered the metaphorical enumeration followed by Jonah. See Goguet, Origines des Loix, &c., tome 3, quoted by Gibbon. We must, however, compare the prophet's implied census of the inhabitants with his Itinerary, and identify accordingly the whole district included within the four streams, specified in page 3 of the paper accompanying the general map, as comprehended in the prophet's designation of Nineveh.

‡ Subsequent to the ruin of the city, Koiyunjik would appear to have been used occasionally as a defensive position in many of the wars which have waged between the Orientals and their western neighbours. Xenophon notices a castle on the site, as also Tacitus (Annal. xii. 13). In the thirteenth century too, Abulfaraj and Bar-hebræus, the former in Hist. Dynast. p. 404, the latter in his Chronicles, p. 464, mention a "castellum" there.

§ This term is the Turkish name at present given to the great mound, and is indifferently written either as كوينجق or كويونجق according to the orthography of Mr. Rassam, which, however, may be doubted. As a favourite resort of the shepherds and their flocks, قوينجق "lambs" may be deemed more strictly the derivative of the modern name, especially as the mound is known by the appellation of Armushiyeh to the Arabs. The term عرموشيه is of doubtful signification, but the root عرم has a latitude of interpretation, and may be

able in extent of the two, and may be appropriately named the Acropolis of Nineveh, for the eminence bounded on three sides by the waters of the Khosr (led through the city into its old bed near the mill from the moat and canal* at No. 24) must have been isolated from the surrounding edifices, while washed at the same time by the protecting current of the Tigris on the west, where the walls had openings to admit of the debouchure of the north-eastern stream.

The beds of these are well marked at the foot of Koiyunjik, and the purposes they fulfilled are as easily recognized on examination.* The shape of Koiyunjik is that of an irregular oval, somewhat elongated at its north-eastern extremity; which, however, occupies the more elevated portion of the plain the eminence stands upon, though in itself inferior in height to the south-western extremity. This latter rises ninety-six feet above the Khosr, near its junction with the Tigris. Its sides, on the east and north particularly, are deeply furrowed by the rains of succeeding winters, forming broken ravines, at uncertain intervals, in the steep declivities which conduct, over *débris* of the superstructures, from its summit to the adjoining plain.* The surface, in general flat, now exposes numerous mounds of loose earth, thrown up above its south-west extreme, and is dotted also with them in other parts. We ascend the pile, and find these hillocks being daily added to by the excavated soil from deep trenches, which yawn in every direction beneath and around. A closer inspection shows man is the labourer; and, busy in his vocation, we see him in the bowels of the mound, running to and fro with the pick, the shovel, and the basket, endeavouring to rescue from oblivion the long-lost labour, and even the lost history of his fellow-man; for among the operations we discern an eminent palæographer,† regardless of mud below and rain above him, transcribing from the lapidary tablets which face the chambers and galleries excavated by the indefatigable Layard. Koiyunjik has, in fact, through the exertions of the latter, proved one of the greatest repositories

applied to "variegated flocks" or "great embankments." These modern names, as far as we can see, carry, however, no weight with them for the identification of the more ancient names.

* It must be remembered that the Khosr was shut out from its original channel further to the east on the building of the city. The lower portion adjoining the Tigris in its shape offered, however, we presume, a convenient ditch for the separation of Koiyunjik on the east, and hence the canal led to it from the north-eastern angle of the city enclosure.

† Colonel Rawlinson was daily thus employed in a most inclement season: book in hand, sometimes seated in a swamp, sometimes protected only by an umbrella from the torrents coursing down from above, he persevered and succeeded in obtaining copies of all the legible tablets uncovered within the mounds both of Nineveh and Nimrud. It was ludicrous and interesting, indeed, to witness the shifts he was occasionally put to to obtain a glimpse of light upon a defaced and uncertain character of the inscriptions. His activity of mind and body, in the pursuit of his favourite study in every situation, is certainly deserving of the success which the public and his numerous friends most cordially wish him.

of Assyrian art; and its records, it is hoped, through the perseverance and skill of the former, will develope to us the economy of a people who were illustrious and great as a nation at a period just within the horizon of our mental capacity of time. The palaces, temples, and sculptured galleries of the Ninevite kings, buried beneath their own ruins, and those of the superstructures of many succeeding dynasties in Koiyunjik alone, cover in extent of surface about one hundred acres of ground, of which a small portion only has been thoroughly examined.*

Nebbi Yunus, the other artificial tumulus within the *enceinte* of Nineveh, covers an area of about forty acres. It is of an irregular shape, but more precipitous and abrupt than Koiyunjik, especially on its western face, which originally joined the wall of the city, though now separated from it by roads on the north and south. A deep ravine divides the surface, which is generally flat, into two portions; the east one being used as a cemetery by the inhabitants of a village occupying the summit of the western and larger portion, on the north edge of which is a conspicuous white building, traditionally covering the last resting-place of the prophet Jonah.† The site, therefore, in Mahomedan eyes, is a sacred one; and hence the erection of the village adjoining, chiefly inhabited by Kurds, who are muleteers and cultivators of the flats around. As a necropolis it is also a favourite spot, from its propinquity to the shrine; and the base of the mound is therefore thickly studded over with the last emblems accorded to humanity—the head and foot-stone that connect him with his mother earth. This it is that renders excavation of the tumulus so difficult; but no one who passes can doubt but it conceals, like its neighbour Koiyunjik, a stately edifice of an Assyrian age,‡ and likely, from the sanctity attached to it at the present day, to have been a much-revered spot,§ even in the early times

* We insert, for the benefit of the curious, that Koiyunjik contains about 14,500,000 tons of earth, and its neighbour, Nebbi Yunus, 6,500,000. On the supposition, therefore, of 1,000 men being able to excavate and remove 120,000 tons of earth annually, these artificial eminences would require respectively about 120 years and 54 years for their completion by this number of people. In their construction, women as well as men were employed by the despots of the day. This we learn from the inscriptions deciphered by Colonel Rawlinson.

† The Christians deny that Jonah died in Nineveh, but acknowledge that a Christian church occupied the place of the present Mahomedan mosque and tomb, said to have been built over the former on the Mahomedan occupation. See Rich, ii. 32, in a foot-note.

‡ Since this was penned, the Pacha of Mosul has opened the mound by the aid of convicts employed for the purpose. Two splendid bulls, much defaced, and some chambers formed of slabs bearing the cuneiform legend, were exposed on my last visit in April of this year. The bulls are about nineteen feet high, contiguous to the so-called tomb of the prophet, and, if anything, below the foundation of the edifice.

§ If Ninus really had a sepulchre in Nineveh, we are disposed to regard this tomb of Nebbi Yunus as the mausoleum honoured with the title of "Busta Nini" by Ovid and by other writers, who, more or less conflicting in the circumstances of his burial, make the whole of Asia

we are considering; for, singularly enough, the later sects—even prejudiced Mahomedans—are not exempt from a certain credulity and veneration always attaching to mysterious personages, and to spots* traditionally invested with interest, as the theatres of their pilgrimage and operations.

The peaked cone, surmounting the cupola of Nebbi Yunus, can be seen from a considerable distance, and, stuccoed white, it glitters in the landscape as the most conspicuous object in Nineveh. Its peak was ascertained as 136 feet above the junction of the Khosr with the Tigris, though the mound itself is believed to be of less elevation than Koiyunjik. Accuracy in this respect, surmounted as the mound is with houses, could not be expected; and, unfortunately, the constant rains we experienced so relaxed the cobwebs fitted horizontally in the telescopes of our theodolites, that angles of elevation could not be relied on, though those given cannot be far from the truth.

The above eminences exhibit the only vestiges that are in any way remarkable within the area of Nineveh. There are, however, some low mounds of *débris* accumulated north-west of Koiyunjik, which point out the situations of buildings; and, on the rising grounds to the east, here and there, may be traced the alignments of others just above the surface of the soil. They offer nothing of interest, and we agree in the opinion given by other travellers, that the enclosure never contained any vast connected pile of buildings, like our modern cities, but on the contrary, exhibited spaces of garden, and occasionally plots of open ground spread over with tents, as may be seen at present within the *enceinte* of Baghdad. Under whatever dynasty, indeed, Assyria is viewed, we must always attach to its people inclinations favourable to nomadic life, consistent, indeed, with the aspect of the country and their great origin as pastoral races. The love of wandering, moreover, must, as now, have made these families difficult of control; and hence, doubtless, the policy of fencing them around with fixed abodes soon became apparent to those who, phrenologically speaking, possessed the organs of government and power. We believe, indeed, that the dispo-

Minor, from Tarsus to Babylon, the scene of it. We shall allude to the subject again in the paper on Nimrud, the great pyramid of which being supposed by some to represent the real tomb.

* On the outskirts of Mosul, on the opposite side to Nineveh, we have the recognized grave of Seth, the third son of Adam. The tomb is much revered by both Christians and Mahomedans of the district. Nebbi Allah Shyth, "Seth, the prophet of God," is the usual name and title uttered in speaking of him; but are we to credit the tale of his burial here, or does the site mark the last resting-place of a pagan personage of a subsequent age and less direct lineage from the original Adam of our race? Considering the extraordinary monuments of Assyria but lately revealed to us, we might indeed be justified in the expectation of meeting still older records on this soil; for Ninus, in archaic relation to antediluvian Seth, is but as a youngster of the human race.

sition in the people to stray had originally as much to do with the construction of the enclosure before us as considerations of defence had: in the mean time we are deviating from our own path in the topography of Nineveh, which we resume with a short account of a spring in the central ditch, No. 13 of the map.

This pool, at the present time known by the Turkish name Demlamajeh,* is situated in a recess of the west bank of the excavated channel. It appears to ooze from a stratum of limestone just showing below the superimposed conglomerate of the bank; and whether it has wept on unnoticed since the fall of the Assyrian monarchy or not, we leave others to determine. Tradition has, however, invested its waters, which are pure and wholesome, with remedial properties in various diseases, that have, doubtless, in this singular country, been handed down from age to age; and the grotto before it, supported by its humble pillars and neatly executed arch of a venerable appearance, clothe it also with the honours of age, even did not the singular custom of antiquity,† that of driving nails in the crevices of the stones, remain to our view at the present day: "as a nail sticketh fast between the joinings of the stones," is here indeed literally witnessed, for we have large nails driven in to their heads, filling the crevices of every seam. Were the practice a modern one, as suggested by Rich,‡ nails of every period would be found imbedded in the masonry, expressive of the benefits derived from the virtues of the water, for Rich regards them as sacred relics; but why the presiding nymph should be wooed by the hammer and the votive offering of a nail, as he supposes, we have yet to learn.§ We incline, therefore, to the belief that the arched masonry of the period was so far defective in the science of keying that the process of studding with iron nails was necessary to the firm union of the blocks in the formation of the arch; otherwise the nails would be found in conspicuous crevices only, and not, as they are, wedged around the entire seam.

The little fount of Demlamajeh has, however, other attractions for the English traveller; nor can he read a name carved on the grotto there without sympathy and regret,—sympathy for the bereaved lady so feelingly mentioned in the delightful pages of "Kurdistan and Nineveh," and regret that Claudius Rich, who, with a true antiquarian

* دملمه corruption of Demlamakeh, a term applied to a water oozing drop by drop. It is Turkish.

† Ecclesiasticus xxvii. 3.

‡ Layard regards the arch as the work of a Greek or Roman age. We think otherwise from the prevailing practice noticed in Ecclesiasticus, which would, we presume, refer it to a still earlier period.

§ Rich, in his "Kurdistan and Nineveh," deems these emblems expressive of a registered vow in the event of recovery from sickness.—Vol. ii. page 34.

eye, so critically examined and ably wrote upon both Nineveh and Babylon, should not himself have been spared to witness the results of his foresight, achieved by Layard a few years later only. For the first detailed notices of these places we are certainly indebted to that eminent man, who, as a traveller, treated all subjects, whether geography, history, or antiquities, with an inherent skill that cannot fail of being appreciated by those who follow his foot-prints on the same soil. Nothing indeed, is wanting in his descriptions, though he was but a passer-by; and for labour in detail, where he had opportunities of survey, he cannot be surpassed. Like the geologist, indeed, who predicts the existence of precious metals from observations of the soils, Rich, thirty years ago, presaged the existence of Assyrian monuments in the mines from whence they have been exhumed.*

The prejudices of the Osmanli had, however, not then relaxed, or, from Rich's well-known liberality and zeal, our museums would have been stored with Assyrian relics at the commencement of the present century. At that time all that we knew of either Nimrud or Nineveh was from the pen and pencil of Rich, whose survey, engraved in the volumes edited by his widow, will be found as correct as the most diligent enthusiast can desire; indeed, were it not for the renewed inquiry into Assyrian subjects, the present survey we have the honour of submitting to the public might have been dispensed with, for its value chiefly consists in corroborating the fidelity of his positions; and otherwise, though quite unnecessary, stamping his narrative with the broad seal of truth. He was the first real labourer in Assyrian fields.

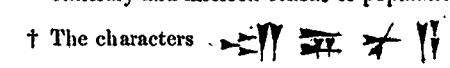
Before concluding we may be permitted a few words on the identity of the ruins we have so often traversed, and have attempted to delineate as they exist *in situ*, opposite to Mosul, at the present time; for it appears to us that Layard, in remarking, "the evidence afforded by the examination of all the known ruins of Assyria further identifies Nimrud with Nineveh, and that the former represents the original site of the city" (vol. ii. pp. 245, 246, of Nineveh and its Remains), is in error. That the former was endowed with the name† as a part of the district of Nineveh, or as the capital of a subsequent date, we will not deny; but that it was *par excellence* the capital of Assyria from the earliest times we cannot subscribe to. In the disquisition upon giving a new locality for the capital of Nineveh in favour of Nimrud, the eminent explorer and

* We infer this from his rough notes and from his fragments, cuneiform and other carefully preserved relics, though he nowhere directly asserts their existence. His journals are, indeed, only the results of observations, not of reflection, his death preventing his opinions being embodied with the former.

† We shall endeavour to explain this further when considering the position of Nimrud in the paper accompanying its plan.

writer on Assyria has called in the whole of the surrounding ruins intermediate between the Tigris and the Zab, to aid in swelling the confined area of the latter to the rank and dignity of a metropolis! The same argument* that has been adopted for Nimrud in the same sense is surely applicable also to the larger quadrangle around Koiyunjik, which, besides traditionally bearing the actual name of Nineveh† (Ninua) for ages, is capable of containing all the Assyrian vestiges yet found at Nimrud and its locality. The broad walls and noble water defences of the former appear to us, indeed, of more importance in a categorical inquiry of this nature, than all the historical accounts published of the capital since the flood.‡ These are more or less vague and conflicting, and mislead instead of instruct. They should, therefore, one and all be set aside in favour of ocular evidence, where, as in this instance, we have it, even if, from the earliest times, arbitrary opinion, founded on tradition, had not decided in fixing the Nineveh of the world. In opposition, therefore, to Ctesias and Diodorus,§ to Strabo and Ptolemy,‖ we must be allowed to retain the capital where it is self-evident its founder established it. We cannot consent, indeed, to sell its birth-right for the mess of *flummery* the former¶ two have presented us with, though even at the present day the Tigris is confounded with the Euphrates by half the population of the district. Xenophon, in the Anabasis, though he

* Itinerary and inferred census of population from the pages of Jonah.

† The characters  represent the name in the cuneiform writings of Assyria, equivalent to the Hebrew, נינוה. The Septuagint writes the name Νινευΐ, Νινευη, and the ordinary Greek writings Νινος, as the form, while in Latin it is denominated Ninus. See Kitto, under *Nineveh;* and Colonel Rawlinson supplies as the monogram for the city.

‡ The Khosr boundary, as the most accessible point, would require the bulk of the population for its defence. We shall refer again to this subject when considering the position of Nimrud in the next paper.

§ These authors place it on the Euphrates, an egregious but common enough error, as we have before pointed out.

‖ Nimrud is evidently defined as the Nineveh of these geographers, and at the period they wrote it doubtless held the title, according to eastern usage, after the destruction of the capital. Strabo's identifying the region as Calachene is conclusive, however, we think, of Nimrud's not holding the *original* title of Nineveh, for it has been recognised by Colonel Rawlinson as the Kalkhu of the cuneiform writings, and the Calah of Genesis x. As such, it was doubtless the principal city of Calachene, the name of the district in Strabo's time, and, from being the last inhabited, known also as the representative of the original Atur or Nineveh, its contemporary city from the first foundation of the monarchy there.

¶ If Aristotle, Plutarch, Aulus Gellius, and Joseph Scaliger, are correct in their estimate of the character and writings of Ctesias, his fragments should cease to be quoted as authority for anything. We believe the statements of the latter geographers, Strabo and Ptolemy, to apply exclusively to Nimrud while it held rank as the capital of a later age. We shall consider the subject again in the description of Nimrud.

mentions not the name of Nineveh, makes the city in ruins opposite Mespila the capital of the kingdom of the Medes; at least, we presume so, from its extent in comparison with the neighbouring Larissa, which can be no other than Nimrud, and the fact of its requiring the special interposition of the gods for its capture by the enemy. Xenophon, indeed, is nowhere so lax as any of the other ancient writers that have been quoted, and in geographical details he far excels them in perspicuity and acuteness. In the region we are considering, every foot of his masterly retreat is apparent; and if aught were wanting, either in distances or description, to recognize the whereabouts of the Greeks at the time of passing the Great Castle and city of the Medes, we have the very name of Mespila, by a simple transition of oriental orthography, rendered in the modern one of Mosul.*

Lastly we have the tomb of Jonah erected on one of the principal mounds within the area of the city, bearing to this day the name of the capital to which his mission was especially ordained. Though his reputed death and burial here may not obtain sufficient credit to warrant its positive identity as Nineveh, still the name of Jonah itself in connexion at all with the desolate site before us, brought down from age to age in a country where habits, customs, and traditions are proverbially as unchangeable as the sun above, stamps it with a reputation that might otherwise be questionable. The name, however, has doubtless been applied to other ruins occupying contiguous positions, and, indeed, as we have said before, we consider the territory included between the Tigris and the Zab, south of the Khosr, as comprehended in the proper name.† The positions of Selamiyeh and Nimrud, as being inhabited to a later date, would retain the name after the abandonment of the capital;‡ and in this way Yakut, and other Arab geographers not over-

* Mespila, or Μεσ-πυλαι, "central gates," &c., named, we presume, by the Greeks from being midway between the Persian Gulf, the Euxine, the Mediterranean, and the Caspian Seas. The term, after Alexander's conquest, soon became converted into Muspil and Musvil, to be further corrupted into the Arabicised Mosul, after the Mahomedan conquest. موصل signifies "joining or connecting," and is equally applicable to a spot from whence emanated the diverging caravan routes that led to Persia, Mesopotamia, Syria, and Northern Asia Minor, in early times as in the present day, when we see it as the central mart which connects the traders of the surrounding countries in one common pursuit.

† In the same way as London and its environs are included under the same general term of London, when not necessary to particularize a single locality; but if we speak of the city of London, the words must be held as significative of the city's limits alone.

‡ Many instances of this may be quoted; Seleucia retained the name Babylon long after the original Babylon was destroyed; and Baghdad, even at the present time, is named sometimes after the original Babel; at least, the episcopal chair of the bishops of Babylon, after Seleucia was ruined, took root in Baghdad, and still stands, though in a tottering and disreputable state, as the seat of a bishop bearing the title of Babylon. Seleucia, too, gave its name to other places after it was abandoned; and of Eski Baghdads, or "Old Baghdads," we have a goodly assortment, though in these cases the name of Baghdad has returned to the original site, the

critical in inquiry, became possessed of their knowledge of Assyrian sites, that is, by the simple traditions of a new people. These have dwindled to mere villages since the Arab geographers passed from the scene, and hence the name of Nineveh or Ninua again attaching to its primitive position in proximity to Mosul, which place in the present day even affords the patronymic of Mosulawi, not only to its own inhabitants but to those of the villages at a considerable distance around; the country north of the Zab at the same time receiving the title of Ardh Mosul, in much the same way as may be supposed the capital, Nineveh, gave its name to the identical district in olden time. The extent of the Nineveh of Jonah, its population, and much cattle, need not, therefore, alarm the greatest sceptic, though we must confess the dimensions given to the city by Diodorus Siculus* to be as irreconcilable with truth as the most determined Munchausen of ancient or modern times could desire. We are, however, more inclined to attribute error to the stadia of his manuscript than culpability to himself or his informant, particularly as he gives a correct distance of seventy furlongs or stadia, when describing the flight of the rebels, as the interval between the mountains and the capital of Nineveh, a few pages further on.†

We now close this paper, with hope it may in some measure elucidate the map, on which every care has been bestowed to render it descriptive of the interesting spot. Our observations extend to Nineveh alone, as all connected with the modern Mosul‡ will be sufficiently explicit in the map itself; and any comments we have indulged in not bearing on the subject we have undertaken, it is hoped, will be received as inserted only to relieve the tedium of geographical detail. We have, however, to remark that the whole country contained in the plan is under cultivation, even to the summits of the walls of Nineveh and the eminences of Koiyunjik and Nebbi Yunus, wherever the plough can furrow uninterrupted by the artificial obstructions of the ancient works. These fields and furrows have been excluded from the plan to render objects more distinct; but the reader himself can reflect how much the

"Old Baghdads" being ruins of more modern positions, founded by caprice or necessity, and again deserted for the original city. The modern Basreh too stands on the site of Abileh, which name is lost and replaced by that of the city of Sindbad, now seen in ruins five miles west of the modern Basreh, bearing with the ignorant the name of Jama Ali only, that of part of a mosque, the single pile left erect there.

* Instead of four hundred and eighty stadia, the circuit of the walls is but one-eighth, or sixty stadia.

† Compare book, chap. i. 101, with page 121 of the same book and chapter, in the English translation of Booth.

‡ With respect to it we quote the apt words of Sir Anthony Shirley, in Purchas, p. 1387 of the 2nd vol. After speaking of Nineveh, he adds: "Within one English mile of it is a place called Mosul, a small thing, rather to be a witnesse of the other's mightinesse and God's judgement, than of any fashion of magnificence in itselfe."

little implement of husbandry, in the action of centuries, has had to perform in reducing man's works to their present height, and what remains for it to effect ere the crumbled walls be swept to a level with the surface of the plain, which, to the west between it and the Tigris, is mostly of comparatively recent sedimentary formations, added to annually by the detritus of structures worn down by the combined efforts of rain and the plough. That the walls which, after so great an interval of time, show such remnants, must have been originally of ample dimensions and strength, we cannot doubt, even if historical records were silent on the subject; and these relate that four hundred thousand men where thrice defeated before the city was laid siege to; and then, to effect its capture, after an investment of two years, the rivers, at the interposition of the gods, brought about what man had hitherto been unable to achieve.*

To reconcile this part of the account, however, with modern appearances, we have only to picture to ourselves an unusual flood in the Tigris, with the dikes in possession of the enemy, and an extraordinary downfall of rain swelling the Khosr to such an extent as to break down its triple dams at No. 27, near the east and principal wall. The prophecy, that "Nineveh could never be taken by force till the river became the city's enemy," would be easily fulfilled by their destruction, and the panic-stricken king, under the conviction that the oracle had been accomplished, must have at once abandoned his empire and his life. "Their memorial had perished with them," indeed, had not the literary acumen of Rawlinson been at hand to develop the wonderful discoveries of Layard. To the former, in anticipation of the approval of Government, we have inscribed the map of Nineveh.† Though but a small tribute, it is one of admiration for the physical and mental energy which, in the fields of cuneiform and geographical inquiry, he has perseveringly displayed, and which we have been an eye-witness to for many years past.

Nimrud and its topography form the subject of the next paper to accompany Sheet II. of our maps. The limited time at our disposal would not admit of separate plans being made of the excavations at either place. The excellent work of Layard, however, supplies all

* Diodorus Siculus, book ii. chap. 2, makes the Euphrates the destroyer of the city. This is a confusion of names which we have endeavoured to point out as still common enough in the country. After great reflection in connection with the surface levels of the locality, we, however, conclude the Khosr, and not the Tigris, to have been chiefly instrumental in its ruin, the more so as the walls contiguous to the Tigris are in all respects, as regards the admission of the river within them, as perfect as ever they were. There is indeed, no trace of a rupture on the side of the Tigris which can be attributed to the effects of the stream.

† Sheet 1st of the Vestiges of Assyria.

deficiencies on this and every other subject that may be required for a full comprehension of the vestiges of Assyria.

Topography of Nimrud,

Illustrative of Sheet 2nd of the Vestiges of Assyria.

Though we have for consistency's sake lent our endeavours to maintain the capital of Assyria on the spot it has so long occupied, and have objected in the previous paper to the grounds on which Layard has essayed to transfer the dignities of the metropolis to this place, we quite concur in his general observations respecting Nimrud, which, geographically considered, it is presumed held the second rank among Assyrian cities, and it is not unlikely that it attained a greater importance after the destruction of the original Nineveh; the position and religious character of its edifices rendering it, we infer, a favourite residence of the monarchs of Assyria. In eastern wars, too, the destruction of the capital from the earliest times appears to have been the chief incentive to conquest; and, razed as the original Nineveh is stated to have been on its overthrow by the Medes, the remnant of its people would, after the excitement had passed away, naturally congregate in the neighbourhood of the sacred edifices, and around their altars endeavour to erect again a shelter for their wives and children, before settling down in their turn as a subjugated but protected race.

In the plenitude of power, and, indeed, while advancing towards that state, we may conclude that the Assyrians, as well as other nations ambitious of conquest, would first of all secure themselves from foreign invasion; additional grounds for placing the capital on the banks of the Khosr are thus furnished, as, protected as the territory otherwise is by the Tigris, by the Zab, and by the hilly range of Maklub, defended again by the Gomel or Ghazir-Su, the north-western boundary, skirted only by the small rivulet, is by far the weakest point. Common prudence alone would, therefore, dictate the necessity of establishing the bulk of the population on the most accessible position. Hence the situation of Khorsabad at one extremity of the line, and Nineveh, the capital of the country, protected also by the Tigris, at the other. These, connected by a series of posts at dams situated at intervals along the Khosr's course, in relation with the noble water-defences of the metropolis, by keeping the Khosr at a high elevation, must have answered admirably as a bulwark against approach from the assailable quarter; and for these reasons also we must regard the locality of Nimrud as peculiarly adapted to the situation of a provincial town, in which might be established the cherished emblems of religion, the temples necessary to them, and the palaces essential to either the magnificence or recrea-

tions of the Assyrian kings; for, protected by contiguous rapid streams, but a small force was needed to watch over the security of the position where tranquillity invited to the observances of the faith, as well as to the enjoyments incidental to existence in a semi-barbarous condition of society.

That Nimrud, as the representative of Nineveh, remained inhabited to the last as the protected asylum of its scattered people there can, perhaps, be little doubt, for the broad face of the country speaks of its abandonment by the Tigris at a period long subsequent to its foundation; and the excavated canal, brought with such diligence and ingenuity from the distant Zab, supplies a conjectural page in its history which, affirmative of its sanctity as a cherished position, points to its occupation as a city so long as the tunnel and canal on the west bank of the Zab remained open and intact; and, as was the custom in ancient as well as in modern times, it doubtless bore also the name of its great archetype, Nineveh. We may date its decline and final desertion from the time the former was severed from the aqueduct by an encroachment of the river. When this event happened we cannot ascertain, for history is silent; but identified as Nimrud is with the Larissa* of Xenophon's Anabasis, we learn that it was deserted at least twenty-two centuries back, and, perhaps, for a considerable period previous to his passage through the country. The account he gives of its capture during an eclipse of the sun has reference doubtless to its degradation on the fall of the Assyrian monarchy. The recital shows, however, that the current of events connected with these interesting ruins had not then stagnated in the dark abyss of time.

Notwithstanding the additional materials placed at our disposal by the recent discoveries, we must ever remain dependent in a great measure on conjecture for the comparative antiquity of Assyrian sites. Even with the correct interpretation of the Assyrian records, after years of learned and patient investigation by Rawlinson and others, we may not be nearer the truth in this respect, for the tablets appear to be records more of individual prowess than of historical or geographical detail, though among them there are legends of great value, doubtless, to both sciences. In considering the relative antiquity of several cities comprised within the limits of an original kingdom like Assyria, genealogical lists would seem to be the surest guide for the attainment of correct results. These, however, can only be regarded as approximate landmarks to the key of inquiry, not as the "open sesame" of truth itself; for, after all, they may serve only to recognize the restorer of a palace, or perhaps the ingenious decorator of an apartment that existed before, perhaps, without "the foreign aid of ornament," even previous,

* Book iii.

indeed, to the invention of letters or of sculpture. Certainly the elaborate execution displayed at Nimrud in the construction and fittings of the galleries and apartments, in the finished detail of costume and arms, and in the carving of its many-lined slabs of masonry, all point to an era of refinement, both in art and science, that could not have pertained to the dawn of Assyrian existence, but must have been the creations of long study, founded on system, during years of prosperity and repose.* The surest test of antiquity must be sought for, therefore, in the earlier hieratic forms of sculpture, which we believe can be traced in the coarse stone and colossal bulls† of Koiyunjik and Khorsabad, perhaps covering still ruder forms of a more primitive type, in the same way as the creations of a subsequent period, when higher art prevailed, are found displacing the works of a past generation.

From all we saw, indeed, in our hasty survey of the Nimrud palaces, we are inclined to regard them as the last monuments of Assyrian skill when she had reached her zenith of prosperity, and her people the acme of comprehensiveness, as mental endowments were then developed in the race. To these gradual developments we must ascribe perhaps, the fickle nature of their worship as characterised in the religious emblems now open to inspection; and if the *winged deity* of the Persians, found in most of the monuments of the Achæmenian kings at Behistun, Persepolis, and other places, as is generally admitted, originated in Assyria, we must conclude that the emblem itself, copied by the Persians, pertained to a form of doctrine which, though blended with primitive idolatry, at all events embodied an idea of one supreme God, distinct from terrestrial beings, yet likened unto humanity, indeed, having for its type the great model of the Creator portrayed in the first chapter of Genesis.‡ This model is nowhere found at Koiyunjik and Khorsabad, but is represented on the monuments of the later palaces at Nimrud;§ and, adopted by the Persians, affords evidence that Nimrud existed long after the former were deserted, for effigies such as this are not the idle creations of a day, but must have become the accepted emblem of Jehovah only after matured reflection had ended in conviction as to former error. With individuals such transformations occur only after years of thought; with nations in the enjoyment of

* Layard notices of one of his early discoveries that it surpasses those of Khorsabad.—See "Nineveh and its Remains," vol. i. chap. ii. p. 41; and again in page 63 he adds of others, "Although the relief was lower, yet the outline was, perhaps, more careful and true than those of Khorsabad," and this description is apparently characteristic of the earliest palatial sculptures of Nimrud: see page 64.

† Some of these bear only a few letters or a name for an inscription.

‡ Verses 26 and 27. "Let us create man in our own image and after our likeness." The artists of every age have, perhaps, put a too literal interpretation on the text.

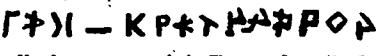
§ Layard's Nineveh, vol. ii. p. 202.

prosperity and peace, they may be effected either in the course of a generation, or of centuries. Whether the reformed mode of worship connected with this emblem was disseminated from Palestine* through Assyria into Persia, or whether it sprung forth in Assyria and radiated to the east and west, is an intricate question. That it obtained as the latest symbol of divinity in Assyria can scarcely be denied from its adoption by Persia; that it became engrafted on the pure Sabæan doctrines held by enlightened generations preceding may be verified, perhaps, on the relics in our museums; and that both succeeded to Iconism, or the corrupt idolatry practised soon after the re-peopling of the earth, subsequent to the flood, we may presume from the light thrown on the subject by Biblical writers, and from the absence of the effigy among earlier idols, as the monsters of polytheism themselves stand revealed to us in the subterranean passages of Koiyunjik, which we believe to have been the abode of the primitive hierarchy of Assyria. These colossal homotaurs, which seem to have presided over the early mythology of Assyria in the absence of Ormuzd himself, winged as they are, express care and protection, while their human features imply Godhead in the more exalted faculties of the mind.

Thus intellectually formed, the fabricators of such works could not remain in ignorance of a still higher order of creation, apart from the globe they occupied. The firmament above them, by day and night, exhibited a splendour over which they had no control, but which their reason led them to view as replete with omens, good and evil, to mankind. The result of study and contemplation soon exhibited the latter in the divinations and sorceries the Chaldeans were so celebrated for; and to the former may be traced that profound system of astronomy, which, above all other sciences, leads the mind into regions where it is lost in wonder and amazement at its own diminutiveness. In the science, then but imperfectly developed, men could only conceive a Great Cause in invisible action, and took to worshipping it through its most prominent and mysterious works, the sun, moon, stars, air, earth, fire, water, and the winds.†

The imagination would, however, still intrude the portrait of an invisible origin, and as in the first chapter of Genesis we are told, "Man was made after God's own image," it is not surprising that the

* We have the figure on a cylinder bearing the Phœnician inscription,



and see a similar effigy on the wall of a mummy pit in Egypt, described under the head of "Burial" in the Biblical Cyclopædia of Kitto. It also abounds on the cylinders of Babylonia and Assyria in connection with symbols of Sabæism, the sacred tree and bull of Assyria; these cylinders, however, we regard as of an era far later than others on which the figure of Ormuzd is not seen.

† Herodotus, in Clio, art. cxxxi.

idea became a prevalent one with the whole human family who thought on the subject at all, and that the representations of the Deity should appear anew divested of their more brutal forms and elevated high above the earthly groups in the picture; the diminished proportions, at the same time, conveying a rude perspective idea* of "His habitation in infinity and space, while the winged circle surrounding the figure not inaptly illustrated His attributes of ubiquity and eternity." Compared, indeed, with existing emblems of holy and evil personages, where the limbs and features are painted with daguerreotype exactness, we may deem the Assyrian Ormuzd as the most simple and pure of the class.†

But under whatever phase we view Nimrud, whether in relation to its claim to remote antiquity, or as a sacred position of a later Assyrian period, it is full of interest. In the latter sense, we are inclined to regard it as a seat of Magism, where the occult sciences, blended with faint notions of a pure deism, were earliest fostered, and disseminated in a corrupt form, which subsequently provoked and led to the reformation of Zoroaster. Birds hovering over, and bearing away the entrails of the dead in the Nimrud sculptures, seem to savour of Magian funereal observances, in much the same way as Ormuzd is represented presiding over the living groups. In the generality of the Nimrud sculptures, indeed, we were struck with the disproportion between them and the more colossal forms of the monster groups of Koiyunjik and Khorsabad; while those of the human class at the former place invariably wear a marked superiority in size, as well as in elaborate execution, over similar personages in the mounds of the latter places. To us this seemed particularly illustrative of the march of mind *in the progress of time*, as claiming for man an intellectual position in advance of the animal creation, while, at the same time, it withdrew from Nimrud pretensions to a very remote antiquity.‡ Its

* With our extended ideas at the present day, a single eye invested with a halo of glory, relict as it is of pagan ages, serves to typify the all-seeing but invisible Origin of Nature.

† In the east, there is a vast number of miserable edifices boasting the title of Christian churches, whose exterior aspects are the least offensive parts about them; for within they are full of unseemly pictures, executed in the very lowest style of painting, for art we cannot call it. Curzon, in his "Monasteries of the Levant," gives a ludicrous account of some of these *daubs*, which disgrace human nature, however low the intellect may be; and on this soil from whence so many noble monuments have been exhumed, the Christian traveller has to deplore the low standard of the Christian mind, which, in the present day, can reverence effigies of holy personages compared with which the idols of the Assyrians are singularly superior, both in ideal expression and human design.

‡ Whether these horned human bulls, lions, &c., received in Assyria, at any time, divine honours or not, is a subject involved in some obscurity; on cylinders from Assyria and Babylonia, the bull is often an attendant, or, indeed, made the seat or throne of Jehovah. In later times, when the veil had been raised which obscured the baseness of human reason, these

tablets too exhibit a copiousness of legend quite in accordance with accumulated events. They show, moreover, that composition and petral caligraphy excelled in its schools, and that operative talent was acquired, in the ratio demanded by the increasing pedigree and deeds of a long line of kings.

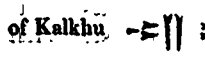
On the other hand, however, the claims of Nimrud to be regarded as of a synchronous era with the ruins opposite Mosul, now denominated Nineveh, must not be set aside, for they are cogent, and time, perhaps, will pronounce them conclusive, though we cannot agree with Layard that "Nimrud represents *the original* site of the city,"* for reasons we have specified both in this and the preceding paper on the capital. Actuated by a fair spirit of inquiry, we express dissent on what may be considered pure geographical grounds alone. We have no desire indeed to overset theories founded on the ample experience and erudition which the able illustrator of Assyrian monuments has brought to bear upon a subject intricate and bewildering in a superlative degree; and our hints, therefore, it is hoped, will be regarded only in the light of suggestions placed by the wayside, to smoothen and not obstruct the progress of others in the great road to truth. That other *great cities of the day* were established at a cotemporary period with Nineveh, is evident from Bible relation, confirmed by existing ruins on the spot represented by Sheet III. of our "Vestiges of Assyria," all of which have been more or less explored by the enterprising Layard, who, after careful analytical reasoning *in situ*, has pronounced the early structures of Nimrud as deserving a first rank in the classification of human fabrics in this part of Asia, if not in the world.† A synthetical conclusion, in some measure verified by Rawlinson, who, from recent investigations, is inclined, with little hesitation, to identify Nimrud with the Calah of our Bible and Chalakh (Χαλαχ) of the Septuagint.‡

We now call attention to the second sheet of the vestiges of Assyria

monsters may have been degraded to a subordinate place in the temples, preparatory to their exclusion altogether. That they were deified in Egypt, and countries bordering on the Mediterranean, there can be no doubt, from numerous scriptural notices of the worship; and that their frontal decorations served to typify sovereignty and power, if not divinity, in the personages who adopted them, we have full warrant of from the pages of Daniel and the coins of the Macedonian period. Alexander the Great is always thus decorated, and to the present day, among orientals, is scarcely known by any other title than ذو القرنين Zu'l Kurnein, "the two-horned" majesty.

* Nineveh and its Remains, vol. ii. p. 246.

† Nineveh and its Remains, vol. ii. p. 225.

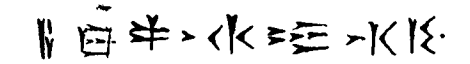
‡ Genesis x. ii. The כלח of the Jews; and Colonel Rawlinson recognises the cognate form of Kalkhu  in the cuneiform inscriptions.

in which we have endeavoured to delineate the features of the country where Nimrud or Calah once flourished, as a considerable city of that region, if not the actual seat of dominion. Layard, with much reason, ascribes to Assyria two periods or dynasties, in which the more recent monuments of its people were separated from the earliest, perhaps by an interval of many centuries. Adopting this view, we must refer the statements of the geographers Strabo and Ptolemy, as to the position of Nineveh, to the later period, when Nimrud stood alone as the "Omega" of the Ninevite kings, and possessed the name in virtue of its singular position, after the earlier cities had ceased to exist. The former places it between the Lycus and the Tigris,* the latter on the first of these streams. In a strict sense we cannot demur at either relation; for, though actually bordering on the Tigris, there is no doubt but that Nimrud latterly derived its water from the Zab or Lycus by means of a great aqueduct, ingeniously conducted from that stream to the south-east angle of the city where it borders on the Shor Derreh, a petty rivulet but boisterous winter torrent, having its source in the isolated hill of Ayn-es-safra to the north-eastward. The embankments of the great canal alluded to, where unbroken by the river, are traceable in their whole extent to the Zab; and in a subsequent age, when the famous tunnel at Negub† had been left dry by the waywardness of that stream, we find an underground tunnel or Kariz‡ connecting Nimrud with the waters of the Ghazr-Su. We have spoken of this work in the description of the general sheet of Assyria. At present the statement serves to show the important position held by Nimrud during the latter dynasties of Assyria, for though almost within arrow's flight of the Tigris, even after its abandonment by that river, the construction of a broad canal twenty-five miles in extent, through a hard pebbly soil, was deemed indispensable to the requirements of its population.§

At the present time Nimrud stands abandoned alike by the Tigris and the Zab, and the viscous current of the Shor Derreh rivulet, mingled as it is with bitumen oozing from thermal springs in its bed, seems only to mock its desertion by the sweeter streams, as it ejects itself

* It is not at all improbable but that Ptolemy's position has no reference whatever to Nimrud, but to the Nineveh of our map, opposite to the modern Mosul.

† This is referred to in the cuneiform inscription by the characters



Negub is a modern Arab name, literally نقوب "a hole" or "perforation."

‡ كاريز Persian compound, the name of an underground tunnel for conducting a stream to lower grounds, where the intermediate land is of a higher elevation.

§ See also general paper on this head, where the work is deemed one of a religious design.

over the surface of the plain beyond. The Tigris at the present day in the low season never approaches nearer to the ruins than a mile and a quarter; while the Zab, since the destruction of the canal, pursues its course at six miles from its walls. That its palaces and halls when erected were, like the original Nineveh, begirt by pleasant waters, there can be no question; nor is great invention requisite to depict the constant struggle which man had with the element in the remote ages, to keep it subordinate to the objects he had designed. We have, as we have previously mentioned, a conjectural page written on the face of the valley before us; everywhere the progress of the Tigris is well marked, from the period when its waters first embraced this early temple of the human race, to their divorce and subsequent attachment to the rugged outline of the precipices bounding the valley of the river to the west. Traces of its career in the remoter ages are still discernible in the abraded cliffs on which the edifices of Nimrud stand, as also in the shallow indenture at their base, once occupied by the ample stream, but now almost obliterated by the plough. It seems probable, indeed, that the valley of the Tigris here, as well as in the neighbourhood of Nineveh, was more confined at the period we speak of, and that the same causes* have acted in a greater degree to widen it to its present extent. Deeper beds, occupying intermediate positions between the eastern boundary of the valley and the present channel, mark also the Tigris's course in a mediæval period. That named Serat al 'bu Debban† by the modern occupants bears unmistakeable evidence of the wayward character of the current which doubtless caused at the same time so much anxiety in the minds of a free people, for, in the progress of the stream westward, they must have felt bereaved of their principal defence. Hence, doubtless, the construction of the great dam Awaiyeh‡ across the channel of the Tigris, the remains of which, still the terror of raft-men, have given rise to many ludicrous traditions, and formed a subject for exaggeration even with European travellers.§ In the low season the Tigris tumbles and roars over the massive masonry it is composed of; and, on a calm night, can be heard at many miles' distance, moaning as it were a requiem over departed grandeur. We witness here, indeed, the vanity of human labours from the beginning, and require no written tablets to chronicle the ever-constant action of

* Fluid pressure on the inferior or southern curves, perhaps assisted by earthquakes.

† صراط البودبان "The prowler's way," an expressive metonism common to the Arabs.

‡ آواي "Sound," "the rumbler." It is also called occasionally the Sakur Nimrud, or "Nimrud's rocks."

§ The quaint old Tavernier describes the rapid here with a fall of twenty feet; and in our English translation of his voyages it is still further improved upon by the rendering of twenty fathoms. See his Voyages.

Nature which time has portrayed with a truthfulness that will endure; the traditions of the country ascribe the erection of the dam both to Nimrod and Darius, but in the last name we may, perhaps, discern a Median occupation of the city, long after its first foundation, when such a work became necessary to confine the receding waters to the eastern cliffs, in order that the town should not be insulated from so essential an article. Appearances on the west bank of the river lead us to conclude that the work was of some extent; and, if we are not mistaken, a portion of it will be found extending below the soil as far as a tongue from the rocky ridges lying to the WNW.* The opening of the great canal from the Zab dates, we presume, from the partial or total destruction of this work.

We need not enlarge on the geological features of the tract contained in the second sheet of the vestiges of Assyria. They are in most respects similar to those in the locality of Nineveh, excepting that the higher ridges west of Mosul, which join the Sinjar groups of rocks, abut, with a less easy decline, on the valley of the Tigris in the neighbourhood of the Zab. The ridges on either side of this stream, indeed, from the Kara Chokh† range to Sinjar, appear mere continuations; the higher portions separated only in the line of their direction, during the process of cooling, into vertical laminæ, while the lower undulations thrown off from them are mere bubbles cropping forth on the surface, when the ridges themselves are depressed beneath the superstrata, generally of limestone and conglomerate, over the whole region. The Tigris, as far as Nimrud, is upheld on its southern or inferior slope by one of these laminæ, which, acting as a great barrier, terminates at Mishrak, a rocky elevation or cape surmounted by three conspicuous peaks when viewed from the north. Here, however, the opposition ceases, and both it and the Zab have availed themselves of the outlet afforded by one of these deep depressions to break through the superficial bubbles of the crust, and, after many tortuous checks, unite to form one grand stream, coursing silently, but deep, through comparatively plain lands, in a more steady course towards Babylonia.

The effect of this antagonism has, however, operated to widen the valley of the river in the struggle of ages; and, like a great serpent, the more scope it has obtained the wider it has spread its convolutions. These, sinuous enough in the low season, are ex-

* We had not the means of crossing the river with our instruments to prove what is advanced, nor would time admit of the delay in the construction of rafts.

† The name of a high mount on the summit of a ridge, crossing the plain between the Lower and Upper Zab.

tended over the greater part of the valley in the spring, filling up the deserted beds; and in periods of flood, the waters, like a vast sea, even reach the deserted abodes which, centuries ago, they both furnished and protected. Like the victims of 'Tantalus' cup, a besieged people in Nimrud may, indeed, have perished from thirst in sight of the fluid which, a few months or even days later, inundation brought to their very doors. At these times the fine crops in the valley are swept away, and their owners, with the little household furniture they can snatch, accompanied by their families and cattle, beat a precipitate retreat. Security is afforded them on the wrecks of the Assyrian palaces. In the autumn and early spring, as represented in the map, the valley of the Tigris consequently presents a broken surface. Broad isolated fields, lying either cultivated or fallow, contrast prettily with the excavated hollows left by the receding river. These exhibit pools of water interspersed with a dark scrub or broom, the natural product of old water-courses; while the rich waving green of the crops, enamelled with every variety of wild flower, now under the light of a spring sun, now in the shade of a passing cloud, glittering with the early dew or the passing drops of an April shower, combine to render Nimrud in these months a favourite locality with most men. With the nomade and other lovers of Nature, modern or ancient, it must always have held a twofold estimation. The mud hamlets of Naifeh-Derawish* and Nimrud, as winter abodes of the present occupants, infested with wild cats, crawling with vermin, and crumbling under the wretchedness of construction, show, however, that man alone disfigures a scene where Nature has ever been bountiful, and where he himself, branded as a "barbarian," once stood pre-eminent and conspicuous enough to excite the admiration of states deeming themselves civilized only after thirty centuries of progress. If "barbarian" then, how shall we designate him now? For the ethical speculator, indeed, an ample and instructive field is open on the banks of the Tigris; though we will not deny a similar theatre exists on the shores of the Thames also. Philosophers, sentimentalists, utilitarians, *et hoc genus omne*, have drunk alike of the former as of the latter; yet now, except in Australia and in other remote isles of Oceania, we can nowhere find man so attached to the zero of human happiness, which he has sunk to from

* درويش Derawish: this name has been thought by many a Mahomedan corruption of Darius or Darayush. It is not unlikely, considering that Darâ or Darius is traditionally invested with the tales and works of the neighbourhood as well as his great prototype Nimrod. Both names, indeed, may have a patent signification, though used as mere meaningless epithets in the mouths of ignorant wanderers of the present day; for, perhaps, they are the only traces left in the minds of men of the two powerful dynasties in which Nimrud flourished; in the latter as the chief, in the former as a secondary city.

the enjoyment of a full measure of prosperity and power. Ambitious only of freedom, he is content in his rags, and will not barter them for the silk and ermine of a shackled existence; though covetous enough of the latter, if able to possess himself of them by

> "The good old rule .... the simple plan,
> That they should take who have the power;
> And they should keep who can."

We have again wandered a little from the subject in hand, but, Bedouin-like, our disposition is to stray from the direct path to scan the expanse around; and in the absence of other interesting objects, we may be excused plucking an inviting flower, so long as we delay not to extract it by the roots. We will now quit Layard's hut in the plan, and direct our steps eastwards, along the margin of the old bed of the river, past the mouldering walls of the mud hamlet that has usurped the name of the "mighty hunter Nimrod," pertaining to the long-buried vestiges of the splendid halls beyond; our guide is the high pyramid marked 7 in the plan. Before we reach it, however, we are sensible of having stumbled into a hollow way, filled from a ravine and winter torrent coming from near Tel Agub or Yakub, north of the city. Absorbed as we are in the dark piles before us, we heed not the swamp we are wading through, further than to observe, on coming to the margin of the ruins, that the conglomerate of the tertiary rocks bounding the east edge of the valley has not only been scarped artificially, but is also well worn by the water-attrition of a long period. The conclusion at once is, that the Tigris itself flowed here at a very remote time, and this is further confirmed by the continuation of the bed, and a well-marked water-line or beach, as far south as Tel Chimeh. This bed now receives only the winter contributions from the ravine north, and the Shor Derreh rivulet south of the city, which latter, when Nimrud was in a flourishing condition, we are led to believe, had its debouchure lower down, on the line of the embankment of the great canal, where we see the opening below the isolated undulation south of the eastern suburbs. This isolated piece of rock soil appears, indeed, from the *débris* of buildings upon it, and from its singular conformation, to have been connected originally with the rock undulations on which the city was first designed; the great embayment that we now see separating them having been formed by the combined back-water action or eddies of the Tigris, and the pressure and percolations from the Shor Derreh in the lapse of ages. The walls of the city, broken and incomplete to the south, look certainly as if their terminations had been swept away by the floods. North of Nimrud the character of the country is the same; unless separated by rain-

courses, it averages a height of twenty and thirty feet above the valley of the river where it abuts on it, but more distant undulations rise to an elevation of eighty and ninety feet, culminating in still higher points, about five and a half miles north of Selamiyeh.

Breaking through the crops or tertiary bubbles here bordering the valley to the east, the chief stream is the Shor Derreh rivulet, emanating from springs in the hill of Mar Daniel. At seasons it is quite dry in the lower part, owing to the water being turned on to the upper plains for irrigation, but in the winter and spring the torrents come down with great violence. The same may be said of the next, an inferior rill* coming from the plains and undulations north of Tel Yakub. They are both lost in the valley of the Tigris, at points separated only by a mile and a half of undulating land.

The tongue at the end of this has been selected for the site of Nimrud, the second, as we deem, in rank of the Assyrian cities. Compared with the capital Nineveh, it is insignificant in size, though equal in interest, as the mine from whence England, by the exertions of Layard, has obtained her principal monuments of a people previously looming as shadows only in the mist of history. What remains of the *enceinte* of Nimrud occupies an area of a little less than a thousand acres. The northern half of the city only appears to have been protected by a regular wall, which is still traceable; but, unlike similar structures at Nineveh, they could not have been remarkable for great altitude or dimensions. The noble water-defences of the capital are wanting too to this city, it being surrounded on the north side by a mere moat of no great extent, apparently fed by the damming up of the Tel Yakub ravine to the north, the waters of which being subsequently led into the ditch at the north-east angle of the city, thus connecting them with the Shor Derreh stream on the east, and the Tigris to the west, when it flowed past the platform of the palaces, then, as we infer from appearances, erected on the margin of that stream. The more prominent and regular walls of the city are as near as possible in the direction of the true cardinal points; the northern one having an outwork or projecting buttress† just midway of its length. Gates appear to have been situated at uncertain intervals in the wall. They will be best seen by reference to the plan, as also will the broken and irregular alignments of the city to the south, a great part of which is seemingly wanting, being, as we suppose, swept away by the combined action of the rivulet and the river, as described in the preceding paragraph. As at Nineveh,

* Rich calls it Karadash ravine. We could get no fixed name for it, it having as many *aliases* as a police *protégé* in England.

† See description of the Great Pyramid.

the interior displays no evidence of buildings beyond a reddish hue of pulverized brick imparted to the surface of the undulations, which are higher than the walls beyond, though in the north-west angle we thought the alignments of houses were traceable in the soil. The plough has, however, done its work here also, for the mansions of rich and poor, if they ever existed within, are alike levelled, nor are the stately temples of its rulers left unfurrowed; the coulter and share, aided by the atmosphere, having, indeed, atomized every structure exposed to their action; and where the cypress should stand as the fitter emblem of their sepulture beneath, we find its place usurped by the waving richness of spring crops.

Though now occupying the extreme south-west corner of Nimrud, the platform enshrining the temples and halls of its kings appears anciently to have held a more central position with regard to the surrounding town, then extending, as we have surmised, much further to the south. Be this as it may, the platform surrounds all that is now attractive on the spot, and once contained the trophies that now adorn the Assyrian halls of our Museum. The four palaces from whence these were extracted occupy the west face and south-east corner of this platform, which is an irregular parallelogram in shape, the north side being somewhat shorter than the southern; it encloses an area of sixty acres. Layard has named the interior palaces, the north-west, the central, the south-west, and south-east edifices, which nomenclature we have retained as appropriate.* Encircled by a much-worn parapet rising at present a few feet above the platform within, they form of themselves a separate enclosure inside the city wall. On the north-west corner of this, where it is connected with the latter, is erected the Great Pyramid that looms so conspicuously over the Assyrian plains. It rises 133 feet above the low autumnal level of the Tigris, and about 60 feet above the platform of the palaces.† Recent excavations have shown the pile as based upon a rectangular plinth of brickwork, aligned in the direction of the cardinal points, and faced with finely cut blocks of limestone, having recesses in the sides at regular intervals, and a semi-circular bastion projecting in the centre of the north wall, much in the same way as the buttress described in the *enceinte* of the city. Above the base it is composed of sun-dried bricks; its apex, worn down as it is at present, rose doubtless to a much greater eleva-

* Deep ravines separate the apartments on the west and south face of the enclosure. The torrents of centuries, coursing from the summit of the mounds to the plain, have in a great measure defined their extent.

† These elevations may be a little in error, from the causes noted in the previous paper. Rich made it 144½ feet, but he had not instruments with him for any accurate measurements. Rich's "Kurdistan and Nineveh," vol. ii. chap. xviii. p. 132.

tion. The crumbled *débris* scattered over the sides has not only entombed the base in the wear of centuries, but has nearly obliterated its pyramidal form, still faintly traceable in the rounded outline of the mass. No remains have yet been found within this singular structure, although evidently designed for a special purpose, and not raised as the creation of fancy alone. Shut out as the Nimrud palaces are from the other Assyrian positions in the neighbourhood by intervening undulations of some altitude, we are disposed to view its erection simply as a tower of communication, whence alarm or religious observances might be either signalled or seen from a distance around. The whole plain to the foot of the mountains is distinctly visible on a clear day from its summit, but a few feet lower down all is hid by the contiguous land. It is only reasonable, therefore, to refer its elevation to a specific object such as this, without seeking to identify it with the Busta Nini, placed by ancient writers in several localities of Asia Minor.* From the absence of such a monument in the capital, while we witness

* Were Ninus entombed in Nineveh at all, we should perhaps seek to identify the site of his mausoleum with that venerated at present as the last resting-place of the prophet Jonah, from the simple fact of the first Christian fathers not recognising the grave as that of the missionary of Nineveh. Yet doubtless a grave existed there, and we may infer a more than common grave, from the fixed and unswerving bigotry of all orientals in receiving, in this respect, what has traditionally descended from age to age; nor is it likely that early Mahomedans, keen in inquiry on matters of this nature, and doubly prejudiced, as they were, against Christian edifices, would blindly accept a Christian chapel, perhaps decorated with the hated emblems of their faith, as the sepulchre of Jonah, unless a tomb invested with necrological honours from a remote period rendered the spot, in their eyes, worthy of memorial and preservation. Rich, who took great interest in such subjects, spent much time in inquiry during a residence in the neighbourhood, and he states that the Christians distinctly deny Jonah's burial on this spot (Kurdistan and Nineveh, vol. ii. chap. xiii. p. 32); and in this respect most authors agree with them, placing his tomb at Gath-hepher and Tyre in Palestine, the pseudo-Epiphanius even allotting a portion of the cemetery of Cenezœus to the reception of the prophet's body. See *De Vitis Proph.* and the Paschal Chron., quoted by Kitto. The Christians had, however, a sort of hermitage on the site of the present tomb. This hermitage, dedicated only to Jonah, in Christian veneration for his mission to Nineveh, may have been erected near the principal feature of the Necropolis, generally, from the sanctity attached to the dead, the last memorial of a city. Its position on this might be regarded in keeping with the character of an edifice raised by austere piety and enthusiasm; and, on the Mahomedan invasion, a pardonable deceit connecting the chapel and the grave, while it preserved both from ruin, may have originated and perpetuated an error which renders the site a *noli me tangere* position to the spade of the antiquarian. Could we convince the 'Ulema of such an error, and point out the prophet's grave to them in Palestine, Islam credulity, partaking more of superstition than respect, might deem the work a charitable one which separated the corrupt relics of their race from the remains of a heathen and proscribed people; a little money would then put us in possession of the mysterious contents of the mound. Since the above was written we heard of operations having been commenced by the Turks themselves, and on our way to England examined some colossal specimens of Assyrian sculpture on a level with the foundations of the supposed tomb of the prophet.

similar ones on a smaller scale spread over the whole country, we are inclined to view it as a religious erection of a later dynasty at a time when the practice of the early Persians, "who made their altars the high places of earth o'er-gazing mountains," first came into vogue. The sacred fire blazing from its summit might have conveyed the signal of sacrifice or prayer to all similar positions around, answering in the latter respect to the minarets of Islamism in our own day. Recent excavations have shown too that it served for other national purposes; it having borne on its south face a grand tablet commemorative of a series of events recorded on a single stone, perhaps of thirty tons in weight. Thrown down from its position, it now lies in fragments at the foot of the pile between the north-west palace and an adjoining apartment, which, to distinguish it, is named "the Temple of Mars" in the plan before us. But whatever cause may be assigned as the origin of this singular monument, it has served as an attractive object on the plains of Assyria for many ages past. As a ruin it excited the attention of Layard and Rich in the present century, as it did that of Xenophon upwards of three hundred years before the birth of Christ. He names it Larissa; and from his description it would appear that the masonry of the base, so lately exposed again, was then conspicuous, though it could scarcely have been more perfect than it is now. Nimrud indeed, in every phase of its singular history, is pregnant with interest to the European, whether in connection with the footprints of the indomitable Ten Thousand, or in relation to its own previous career of glory and renown. Invested with local traditions, the long winter night of the Arab is enlivened too by their relation; and, though he is not over-critical in regard to the truth of the narrative, he is as much interested in his subject as the most ardent philosopher of our schools.

In the superficial sketch represented by our plan there is little else attractive in the ruins of Nimrud. The palaces, buried in the interior platform, have been minutely described in Layard's interesting pages. We saw them under the disadvantages attendant on the preservation of the sculptures; for they had been but partially cleared again of the rubbish heaped over them on Layard's departure. We saw enough, however, to satisfy an ample curiosity, and only regretted that the brief time at our disposal from other active duties would not admit of detailed plans being made of the interior on a large scale. These would require a long residence on the spot, and, moreover, to effect them, the halls and temples must be laid bare again, at an expense perhaps incommensurate with the object in view. The eastern suburb appears to have been formed after the modelling of the original town. Its mounds*

* About eighty-three feet above the level of the plain. I am led to believe these eminences were somehow connected with the canal from the Zab. Perhaps the water was raised by

on the south side higher than the platform of Nimrud, though lower than the great pyramid, would seem to cover other monuments of the period; and, indeed, were excavations undertaken on a grander scale, under an able superintendent, we should doubtless derive as much material as archæologists could ever expect to possess, or, indeed, as the nation at large could desire.

There are, moreover, other positions contiguous to Nimrud which would yield similar relics; one of which, under the modern name of Selamiyeh, that of an Arab village of an early Mahomedan era, occupies a portion of Sheet II. of our Vestiges of Assyria. Now only a miserable hamlet, it was of considerable importance, even in the better days of Islam, the oriental geographers, in a confused manner, identifying the site with Athur or Assyria.*

But without these notices, we could not fail to recognise the crumbled and almost obliterated walls as the structures of a synchronous period with Nimrud and Nineveh. Their remains enclose an area, at present, of four hundred and ten acres; but part of the city, at no time of very great extent, has been swept away by the Tigris, or severed from its precipitous position by the shock of an earthquake. The alignments of the south-west face, now on the edge of the cliffs, washed at times by the Tigris, extended further to the west while the city was in existence, and the north-west wall, meeting it from a northerly direction, formed a right angle overlooking the stream. This angle, and all that stood upon it, have long since disappeared in the flood; but under the *débris* of more recent edifices, forming high mounds in the interior, we might be certain of meeting with Assyrian monuments, as we have done at other places.† The soil, indeed, cannot be scraped even without exposing long-covered buildings, the materials of which are prominent also in the sections of the ravines passing through the city. Similar ravines confine the city on the north and south; the former having warm springs, like the Shor Derreh, in its bed, that emit petroleum, and, at the same time, aid other sources in tainting the otherwise pure air of the locality with fumes of sulphuretted hydrogen, which, in a dense state of the atmosphere, lie sufficiently low to infect the whole plain. An alkaline clay, much prized in the baths of Mosul and by the Arab females of the neighbourhood, abounds too in the banks of this ravine.

machines erected here for the supply of the western palaces, on the great dam being ruptured by the flood.

* See Yakut, in Majim al Buldan; and Abulfeda, under the head of سلامية.

† A fragment of a fine cylinder, bearing a genealogical inscription, was obtained at Selamiyeh. Cuneiform-stamped bricks, with a new form of name, and a stone with crouching lions, of a somewhat rude type, procured from the village, bespeak, too, a mine of antiquities not yet examined.

We have no more to offer on the subject of Nimrud, and, indeed, fear having already said too much. The present aspect of the spot has, however, suggested ideas which, though in some measure foreign to our subject, we have ventured to pen, to relieve the dryness of geographical narrative; and, in the accompanying plan, have endeavoured to delineate the features of the locality as faithfully as we are able. To the enterprising explorer of the region, as a competent judge of its merits, and as a small token of the interest we have taken in his career and discoveries for the last twelve years, we inscribe Sheet II.* of the Vestiges of Assyria, feeling assured of the approval of the Government of India, under whose authority the survey was made during the last spring.

Narrative of the Nineveh Survey.

We have now done with the more-known vestiges of ancient Assyria, and those who require other detailed features of the region included in Sheet III. must follow us in the narrative of the survey, where occasional particulars of its modern aspect will be found interspersed among the notices of our daily proceedings. These are recorded only as an estimate of the pains taken to render the work as perfect as possible in the short interim allotted to our labours.

The East India Company, ever the liberal patrons of science, at the request of the trustees of our national museum, caused the survey to be made. More pressing duties, however, prevented its accomplishment at an earlier period than the last spring, when we set out from Baghdad on our errand, with the instruments and party necessary to the undertaking. We were at a loss, however, for an assistant, until Dr. Hyslop, with the sanction of Colonel Rawlinson, generously offered his aid for the purpose; and through his active exertions in the field we are mainly indebted to the completion of the survey, for our time was very limited indeed. To his zeal in the department, the Flora of the Nineveh region will be known. We will not forestall his observations on this head, but acknowledge his ready compliance with our views with the thanks it deserves.

To ascertain the meridian distance of the region we were proceeding to from Baghdad, it was necessary to make a caravan journey by easy stages, to give full effect to the performance of the chronometers, two of which, excellent instruments by Dent, we had with us. They acted admirably on the way, and gave results when compared with a carefully adjusted dead-reckoning from day to day, as creditable to their own excellence as corroborative of the care with which they had been carried from stage to stage. The daily traverses made on the road,

* On a plane scale of one thousand feet to an inch.

with the astronomical observations taken, are embodied in the Appendix. It will suffice here to record that the great minaret of Mosul, in latitude 36° 20′ 16″ north, has a meridian distance of 1° 16′ 52″ west of Baghdad; a quantity which cannot be far from the truth. The other observations on the journey will form the basis of another map, that of the great military road between the modern capitals of Assyria and Irak, now under construction, and continued as leisure will permit. We therefore abandon the records of this part of our journey for a time, and open our note-book at the Upper Zab, which stream we reached in thirteen days from Baghdad.

Here we experienced the first great delay we had met with, for it occupied from 2 P. M. on the preceding day until the morning of the next to cross the stream by the frail and diminutive rafts worked by the villagers of the two Kellaks, who are a mixed people of Yezidis and Boht Kurds, cantankerous enough in the exercise of their vocations as ferrymen across the stream.

Such delay the traveller experiences on the great post road of Turkey, and, if all else were satisfactory, this fact alone augurs ill of the administration. Though we did not get dinner until midnight, we must cease grumbling, to admire the pretty scene open to us at sunrise, such as is presented by gentle pastures, sloping to the banks of the stream, and covered with the flocks and first lambkins of the season, frisking around the black tents of the shepherds, which dot the emerald carpet spread by Nature on the banks of the Zab. Ascending the tongue lying between it and the Ghazr-Su we see the great plain of Shemamek, bounded by the Kara-chokh hills, dotted with the tumuli of former races, on the left of the Zab. To the west, beyond the meeting of the Ghazr, the view is interrupted by the ridges from the Jebel Maklub and Ayn-es-Safra, shutting out the great Nineveh plain. We observe, however, a conical pile, just capping above the ridge, and are told it is Keremlis, a structure of an unknown age and people. This glimpse of a past generation increases an anxiety for a nearer inspection; but we descend into the glen of the Ghaza by an easy decline, and find ourselves shut out from all beyond it. Here an ancient tumulus, called Tel Aswad by the Arabs, and Minkubi by Rich, points perhaps to the position of a keep that anciently guarded the ford of the Ghazr, which stream becomes at times a fractious torrent, quite impassable to caravans. When we passed it was brawling over pebbly beds in different channels.

We had to make a long detour in search of the most shallow places, and some amusing incidents were derived from the alarm of our Baghdadis, as, with their clothes drawn up to the chin, they endeavoured to stem the torrent. An hour brought us on the level of the ridges to the

west, and the Nineveh plain, its habitations, and singular tumuli, were at once spread out before us; but the capital still lay hid behind the undulations which border the Tigris to the east. Here the green meadows of the insecure tracts are exchanged for the ridge and furrow peculiarities of tilled land, interspersed with the hamlets of a comparatively civilised people, which, pleasing enough in the prospects they hold out to the owners, afford at this season but a dull track for the traveller, especially when softened by the moisture of constant rains. The pace is thus a heavy one to the city, and is much lengthened, for the upper way has to be kept near the base of the isolated hill of Ayn-es-Safra, which has on its summit the remains of a Christian church, dedicated to Mar Daniel, a venerable pastor of an early Christian period. The hill is sometimes known by the latter name, but the former, "the bile fountain," is its real appellation, derived from a sulphur spring at its base, which is said to possess remedial properties in hepatic derangements of the system. Birtullah is next passed, which we are informed is a Christian village. This boasts of a stone house, that had been a few years ago the pretty mansion of a Mosul Pacha; and an oblong building of stone, on the east of the hamlet, is pointed out as the church dedicated to the Virgin, who, with the Syrians, Jacobites, and Chaldean Catholics in all this tract, has even a higher veneration than is accorded to her by similar sects in the West. But we must pass on, as a drizzling rain is urging us to shelter ourselves in the city, and besides shuts out the features in the landscape around. We shall, however, pass them again; in the mean time we ascend the undulations near the hamlet Kojak, and, for the first time, see the Tigris again, since quitting it at Baghdad. On the west of it the domes and minarets of Mosul are dimly visible through a drizzling mist, and prostrate before us are the walls of the celebrated city whose history but a short time ago lay buried in the piles on either hand. We sweep past the white tomb, which bears the name of the missionary of Nineveh, erected on the summit of one of them; and, ere the reverie we have fallen into is well commenced, it is broken again by the clattering of our cattle's feet over the boards of the floating bridge which connects the living city with the dead. Thus, fairly in the muddy streets of Mosul, we add to the bustle and animation which prevail, even on such a miserable wet day. We were, however, soon housed in the comfortable room of the lady* whose hospitality is so generously dispensed at Mosul, and at her table were introduced to two of the members† of the commission sent to explore the antiquities of Mesopotamia by the Government of France. Through the zeal of Colonel Rawlinson and the activity of our friend Layard, these learned *savans* will, we fear, find

* Mrs. Rassam. † Messrs. Fresnel and Oppert.

themselves forestalled. In the evening we inspected the gold mask, vases, gold ear-rings, necklace, and other curious relics daily obtained from Koiyunjik, as well as a vast amount of written tablets, lying stored for transmission to England. There was also a gold coin of Tiberius Cæsar, found near a tomb; a relic, doubtless, of Roman occupation.

For the three subsequent days we were prisoners, as it were, in Mosul. It rained incessantly day and night, and though nothing could be attempted in the field, our route from Baghdad was well calculated and protracted within doors. With a limited time only, it was necessary to do something; and on March 12th we accordingly moved out, in defiance of the wet, and pitched our camp in the swamp at the foot of the Koiyunjik mound. Colonel Rawlinson had joined us the day before, on a tour of inspection of the work now in progress by excavating parties. The 13th, however, gave promise of amendment in the weather, and, as soon as the ground was fairly dry, the base for future operations was measured, and piles, where needed for triangulation, were erected in the neighbourhood. Angles, too, were taken at the principal points, and the heights of the mounds of Nebbi Yunus and Koiyunjik ascertained.

The next day, being Sunday, the people rested, but we were compelled to proceed with the construction of the map, or, with the short time at our disposal, coupled with the wet weather, we should never complete the work in hand. The latitude of our principal position was well ascertained to-day, by the sun's favouring us for a while, and the azimuths for meridian values were procured also. Thus we had fairly commenced; and while our labours were in progress on and around the mound, the French artists attached to M. Fresnel's party were occupied in sketching the sculptures.

March 15th; daybreak.—We were on the mound of Koiyunjik, and managed to procure the first round of good angles, it being a brilliant clear morning. These enabled ten principal positions to be calculated and plotted on the map, and by the time these were finished the hour was convenient for corroborating the latitude of the previous day. This differed but one second from that of yesterday, and was thus far satisfactory. While this was in operation, the French consul, M. Place, made a visit to the camp from Khorsabad, which he is still excavating with but little success. Colonel Rawlinson had, however, gone to visit the Pacha, and in the afternoon we traced in the whole of the western wall of Nineveh south of the Khosr, measuring it and its curves with a chain the whole way. From its contour it is evident the Tigris once flowed along it, into the position it now holds south of the city.

March 16th.—The great mound of Koiyunjik was measured around the base with the chain. The bed of a stream to the north, and the present channel of the Khosr to the east, show that it was encircled by a stream of water, and appearances suggest its having been led in from the north-east angle of the city wall. There is a dried-up well near the mill of Armushiyeh, where the stream seems to have bifurcated in olden times. This work was placed on the map in the forenoon, and the latitude was again ascertained, but 4″ less than yesterday. In the afternoon the northern alignment of the walls of Nineveh were traced in their rectangular form, and the *débris* of edifices within marks the principal ones as having existed there. Visted the north gateway, which we designated "the porch of bulls." The mound on its eastern side has been opened by Layard, and the interior exposes a magnificent sight to those entering suddenly from without, for colossal bulls of an excellent form, with human heads crowned with the peculiar tiara of Koiyunjik, stand in grim and stately majesty in the depth of the caverns of the wall. These are unfinished, as if the sculptor had suddenly dropped his chisel and fled in alarm. Most of our party were inclined to take the same course, and, certainly, an indescribable feeling of awe seems to creep over one while contemplating the groups in the mysterious position they occupy. Our Arabs christened them Jemas, or "buffaloes," being the animals they are acquainted with as most resembling them in size. From this position the wall was carried over the natural rock ridges of the country; and a little beyond the highest part we observed the spur to have been cut through to form a moat for the protection of the north side of the city, in connection with the works of a similar kind on the east face. The survey to-day was completed as far as the Khosr's passage through the east wall, the height of which was ascertained as given in the general sketch. Returning to the camp along the Khosr's course we suddenly came upon a party of young girls, who had selected a nook of the stream to bathe in out of the direction of the usual roads. Like water-nymphs, some dived, while others hid themselves, as they thought, from view, by assuming a crouching attitude with their hands concealing the face, like the ostrich imagining itself hidden when itself blind to exterior objects around. It is evident they had not anticipated the prying eye of the surveyor so close to them, for their clothes were at a distance and could not be reached without a greater exposure, so they quietly maintained their attitude, and the laughing of those swimming in the water told of the enjoyment afforded by the discomfiture of their companions. It was a pretty sight, however; and the water streaming from their long jetty hair down their fair and supple figures, glistening wet in the burning sun, offered a feature of modern Naiads such as is seldom seen, and,

moreover, sadly deficient in the human groups represented in the ancient halls in their vicinity. Those Assyrians, we suspect, were a jealous and crusty race, or they would have favoured us with a few full-length specimens of their "womankind."

March 17*th*.—Operations were continued around the mound of Nebbi Yunus, and its entire circumference measured with the chain, to the amusement of the villagers who inhabit the modern buildings contiguous to the tomb of Jonah. They offered, however, no molestation; and a loquacious Syed, after assuring us on his own authority that Nineveh in reality stood here, volunteered a mass of information quite foreign to that sought; but he pointed out an old course of the Khosr, contiguous to the west wall of Nineveh, which we subsequently traced to the deserted bridge of three arches standing on the plain; showing that this rivulet changed its course to its present outlet into the Tigris not very long ago. After breakfasting at the camp and placing the morning's work upon paper, we proceeded to the east wall, south of the Khosr, where we left off yesterday, and traced it to-day as far as the conspicuous mounds which rise high above the wall where cut through by the Keremlis road. Here parties were employed extracting the finely-cut blocks of stone which seem to form the base of the mural defences of Nineveh. These bear mostly a cuneiform legend of a line or two only. The examination of the various fosses that defended the capital occupied the afternoon. They are certainly well designed for their purpose, and, when the dams were properly attended to, must have surrounded the capital with a triple belt of water in this part, or, when necessary, isolated it altogether from the contiguous country, in the midst of a large lake. Other stations were taken up to-day on the hill of Arbachiyeh for extending the triangulation. We had from this a full view of the plain as far as Khorsabad. The shady green slopes of the ancient tumuli contrasted with the lively verdure of the fields, and the white tomb and mud structures of the present population, in a remarkable and pretty manner, rendered the several objects very distinct in the telescopes of our theodolites, though we experienced much difficulty in naming them for angular values from the stupidity of our guides. On our return, as night set in, we suddenly missed one of our party, as if he had been spirited away. We scurried over the plain and ascended the dikes in every direction without success; and while bewildered and alarmed at his abrupt disappearance at that hour, he stood at our feet in the grey dusk and silence of evening as if by enchantment. We had forgotten the little grotto of Demlamajeh and the pure water of Thisbe's fountain commemorated by Rich. Our friend, however, had not; and, being thirsty after the day's fatigue, he had dropped suddenly into the deep trench where it exists, unknown

to the party preceding him, and, to our relief, as suddenly emerged again when we were in real alarm for his safety. The night threatened to be a wet one, and the clouds, accumulating in heavy masses on the Kurdistan hills, augured ill for our operations on the morrow. We found on our arrival at the tents a company of dancing boys preparing for our amusement; but, being able to dispense with the disgusting performances of this class of Turkish hybrids, they were dismissed, much to the chagrin of themselves and their native admirers.

March 18*th*.—The circuit of the ancient city was completed by measuring the walls in the south-east quarter to the dam, the remains of which are yet visible in the bed of the Tigris, on the south of the city. Yaremjeh, an ancient pile, was visited, and its position ascertained from angles on its summit. These, too, extend our triangulation to the east and south-east. The pile itself has been washed by the Tigris many centuries back, and may, indeed, occasionally, in periods of inundation, still stand in the flood. Half of it has been swept away, exposing a section in which pottery and large limestone slabs form alternate strata with about eight feet of earth. The artificial portion is quite distinct from the marl and loam formation of the original cliff it reposes on, and puzzled us much in conjectures relative to its construction and use. Rich says the natives regard it as the "potteries of Nineveh," suggested to them, doubtless, by the quantity of urns imbedded in the soil, which, however, led us to conclude its origin was owing to the use of the site during a long period as a Necropolis for the dead, as at present. The top is covered with graves and tombs; and a village of the name stands on the neck connecting it with the cliff, formed by the wash of the Tigris in a remote period. The margin of the river, its islands and sand-banks, were traced on our way back to camp.

March 19*th*.—The storm that had been impending the last twenty-four hours burst on us last night, and before morning our camp and the village of Armushiyeh were as isolated positions in a "Slough of Despond." The heavy squalls threatened to blow the tent down, and it required all our ingenuity to sleep within the compass of an umbrella spread out to shelter us from the drippings from the roof. It was impossible to map in such a damp atmosphere. We, therefore, betook ourselves to the saddle, and the day partially clearing enabled us to transfer the northern plain, with its villages and river face, to the map. On this many edifices doubtless stood in an Assyrian age; for the present villages of Ba-Aowireh, Beysan, Reshidiyeh, Sherif Khan, and Gubbeh* are known to have relics of the times thickly spread in the soil on which they are built. The monastery of Mar Georgiz or Jorjez stands at a distance, like a castellated mansion of the Crusade era, on

* قبه — شریف خان — رشیدیه — بیسان — باعویرا

an ancient tumulus; and the portion of a quadrangle a little south of it, near the elevated ridges, points to an Assyrian position half swept off by the floods. The mound at Sherif-khan, or Sheri Khan as it is now corrupted, has proved to be a temple of Sennacherib's, and the remains of a fine canal on the east of it would seem formerly to have led the waters of the Tigris to Nineveh after it was abandoned by the stream. A fine cylinder, some valuable tablets, and other curious trifles have been found here, but no sculptures that we know of.

We were caught in a heavy thunder-storm, and had to take shelter in the village of Beysan, where we were invited into a smoke-begrimed hovel, destitute of conveniences of every kind. It was evident the inmates cared for nothing but mere animal existence; and as we are by no means particular, we lit our pipes and listened to the conversation of the groups which soon assembled around. A Baghdad pundit astonished the community with his tales, fully believed by the ignorant and unwashed villagers of this district. A Suni himself, his sarcasms were particularly levelled against the Shiahs, whom he accused of every crime against God and man, confounding them in his category of infidels with the singular classes who form the population of Reshidiyeh and Sherif-khan. These villagers are of the Ila Ilahi persuasion, or, as they are named here, Cheragh Sunderans, or "extinguishers of light," from their religious ceremonies being mysteriously conducted in the dark, and hence are attributed to them the orgies which are said to have been enacted on the festivals of Venus, both in Greece and Babylonia. The license that is said to pertain amongst them we are not prepared to deny; we believe it, however, to be much exaggerated by those not admitted to their observances, which exclude all other sects. They are an inoffensive people, and, while tenacious of the intrusion of others on their belief, they readily enough cloak their true religion by the profession of Mahomedanism, perhaps dreading the persecutions which they have been too often subjected to. We shall allude to them again presently, and in the mean time hasten back to our camp, having been debarred visiting their villages by the furious squall which lasted for two hours, in which hailstones, formed of transparent crystals of ice on the outside, had, as a nucleus, a pellet of snow within. We had never witnessed them of such a size, the largest which we measured being an inch and a half in diameter. Our horses, exposed as they were, became frantic with the pelting they received, and tried hard to break away; one, indeed, succeeded in doing so, and scoured through the swampy loam of the plain as if wild with torture and affright.

The next day was one of pitiless rain, accompanied by heavy gusts

of wind; and, as nothing could be accomplished in furtherance of the survey, we devoted it to exploring in the bowels of Koiyunjik, in the vaults and temples of which we were, in some measure, sheltered from the down-pour above, though our progress was, rat-like, through the drains below. We were greatly entertained, however, with the scenes opened to our view. The galleries from hall to hall, tunnelled out by Layard, exhibit sculptured bas-reliefs on all sides. We see the mode of transporting the colossal bulls from place to place by the Assyrians, and the order of march of their armies, in which the various corps are distinguished by peculiar equipments of arms and dress. Descriptive scenery of the country passed through is detailed with a minute regard to local features, and the animal and vegetable productions are delineated on the shores, or in the rivers and seas adjacent to the line of march. Here are crabs, fish, and tortoises; land and aquatic birds, and a variety of trees and shrubs, either spread on the plain, or covering the sides of the hill paths, in the branches of which are perched the nests and younglings of the feathered tribe, craving for food, or essaying a flight on their own account, in the true fashion of nature. The entrances to the halls are guarded by colossal bulls, and watched over by various demi-gods in the Assyrian mythology, of which the biped merman or mermaid is the most genteel, habited as it is in a scaly robe, terminating in a fin-tailed skirt of great elegance and propriety of curve. In the king's apartment we have the monarch occupying the state chair, surrounded by regal emblems, among which the tent, chariot, and umbrella are conspicuous. He wears the peculiar tiara of the Koiyunjik sovereigns, something resembling the head of the Persian of the present day. Before him his chamberlain is offering gifts, while captives are kneeling in supplication, emblematic of his power in life and death. Then are displayed a long string of prisoners, and the spoils of war, attended both by horse and foot, among whom is observed a cart drawn by oxen, bearing sacks of plunder, whereon are seated tender women, not wanting in maternal solicitude, though absorbed in the contemplated horrors of the fate awaiting them. Consolation appears to be derived from the kisses bestowed on the infants in their arms; and we envy while we admire the mind of the Assyrian sculptor, who, amid the stirring scenes he has portrayed, has not forgotten the emotions which characterised humanity, even in the fiercer ages of war and blood. Other females follow on foot behind, and are distinguished from eunuchs by their loose robes and long hair, the latter being habited in girdles, and conspicuous by elaborated bushiness of tonsure, though the faces of both are alike smooth and undignified. Next are camels laden with booty, attended by an armed escort. Then follow the regular troops; those helmeted and plumed, bearing a lance, sword, and dagger, com-

prise the heavy-armed legions, in advance of the archers and slingers, both of which bodies are faithfully represented by their weapons, and by a lighter dress and gait on the march. The siege operations against a doomed city are next shown on a centre panel; the ladders are placed against the wall, and some who have ascended are hurled headlong from the battlements, while torches, stones, and other missiles are discharged from the works on those below, with the intention of destroying the engines which are being pushed up an inclined plane in contiguity to the walls, so that the people concealed within can undermine while protected from the enemy. There is the testudo, serving as a shield before the archers, to render their aim more sure and deadly than it would otherwise be. Similar operations are designed on the walls of another apartment, which perhaps was dedicated to Victory. The entrance is by a narrow way, flanked with the portraits of two hideous griffin-headed monsters, menacing with a mace in one hand and a short dagger in the other, preceded by a human figure with extended arms, as if denouncing vengeance against the rebellious subjects of the great king. Here the besieged city has fallen, and the punishment of the refractory inhabitants is witnessed in the impalements and slaughter going on around. Women and children are flying by a postern door for safety in the neighbouring glens, and the whole is, perhaps, as true a picture of Assyrian government as can be desired. The much-disfigured remains of two somewhat diminutive elephants are not far removed from this hall. From their high position in the mound, we suspect them to have originally occupied a loftier post in the edifices of Koiyunjik, and their disfiguration seems also to imply their exposure for a great length of time. We think them creations of an age subsequent to that of the temples adjoining, from the above surmises coupled with the appearance of an inferiority both in design and execution, when compared with the majestic forms of similar animals at no great distance to the north of them: we mean those of the colossal homotaurs, in the great "hall of bulls." Though defaced at present, the attitude and proportions of these display majesty and dominion in no common degree, and, arranged as they are in stern array in the dark caverns of Koiyunjik, closely attended by the castigating and lion-crushing figure of the Assyrian Hercules, we confess to a feeling which partook of mingled admiration and alarm, though not usually taken aback by such or any other prodigies. We were somehow impressed with the idea that the presiding genius of the temple would momentarily issue from the dark labyrinths beyond, and demand the reason of our intrusion. Our flesh crept indeed at the thought of the forty stripes save one, which might be inflicted by the sentence of a "baker's dozen" from a lictor, armed with a tribracheated

weapon such as he grasps.* Certainly, as works of art, they are fine creations of mind and chisel, and we are at no loss to conceive the illiterate multitudes of that day prostrating themselves before images like these, when we see the Christian community of the present time reverencing the puerile productions of the most degraded art, as displayed on the walls of the churches in the immediate neighbourhood,† and, indeed, in all parts of the east. The chambers and galleries of Koiyunjik that have been opened exhibit also a mass of records in the cuneiform character, both separate and attached to the sculptures; and will doubtless yield more, if properly excavated. We have an idea that other works of a still more primitive age lie entombed beneath the floors of the present apartments, which we thought were considerably above the base of the mound. Not a third of this large pile has yet been systematically examined, and we shall soon have to deplore the wreck of the sculptures already exposed, for, calcined as they are from the effects of fire, they must moulder and fall from the positions they occupy; nor will they bear removal from the walls.

March 21st was devoted to investigating the positions on the west of the river, but we had some difficulty in getting there, owing to the flooded state of the Khosr and Tigris in the last three days. The former we forded, with the water up to our saddle-flaps, and the latter was crossed in the ferry boat, after much delay, owing to the rapidity of the current. The bridge, warped over to the western shore, now floated useless, in a sheltered position alongside the houses of Mosul. In the ferry-boats horses and men are promiscuously jumbled at much risk, particularly when one of the former may be viciously disposed, which happened in this case. To keep the peace, however, water had to be sprinkled among them; and, in a short time, when the splashing of the oars and the shouting commenced, in order to extort "bakshish"‡ from the passengers, their vice had subsided in alarm at their own position on the moving flood. We were struck at the number of dumb people employed as ferrymen in Mosul, and, for our own part, could have wished the proportion still greater. It would have saved the pressure on the tympanum, which pained us greatly, while subject to the din occasioned by the shouts and anathemas that were bandied about by the mob; but we found ourselves at last on the other side, and proceeded to the great minaret of the city. Through the civility of Syed Mustafa, the holy personage in charge of the mosque, we were allowed to

* He is armed with a "cat-o'-three-tails;" an instrument squared upon to suit modern ideas for the maintenance of discipline.

† None can look upon the daubs hung up in the monastery of Mar Jorjiz, or in other similar edifices, without painful evidence of the low standard of the Christian mind here.

‡ An Arabicised Persian word from بخشیدن "to bestow"? It is in common use all over Egypt, Syria, and other parts of Asia Minor, where it implies "largesse."

ascend the lofty column, which overlooks the whole plain to the base of the mountains, and beyond the Zab also. Nimrud and the various positions were clearly in view, and we had the gratification of obtaining a good round of angles, which corroborated every position we had independently determined. The Mulla's people gave us all the information we desired. Our proceedings, however, furnished scope for speculation in the townspeople below; some thought we were looking for a position to plant guns upon against the town, which it is thought we are not long hence to occupy; while others turned over the idea of the ruined mosque being required for a Christian church, when that event should take place; it having been the site of one, we believe, before the Mahomedan invasion of the country. The present building was raised by Noor-ed-din, in the 755th year of the Hejrah. The double spiral staircase is still in good repair, but the column itself is somewhat bent, and shaky in appearance. The architecture displays the neat and compact brickwork of most of the older Saracenic buildings, in fine preservation for its age.* Our next proceeding was to stroll carelessly through the northern quarter of the town, and it being a Sunday afternoon, we derived some pleasure from the appearance of the gay groups of Christian ladies and children, dressed in every variety of colour, seated in the green grass which overspreads the open part of Mosul, from a little north-east of the great central mosque to the walls on the north. The men, in black turbans, were congregated in knots at a distance beyond. Their amusements were not, however, derived from conversation alone; for we observed a passing bottle and heads alternately thrown back contribute a little to the exhilaration of the parties, though there were no gross exhibitions to offend. We were saluted respectfully, in passing onwards to the Bash-Tabiyeh,† a modern pile of some strength and elevation, forming the north-east angle of the Mosul walls. This is said to be built on the foundations of the old monastery of Mar Gabriel, a Christian edifice of early times. It is washed by the Tigris when high, and stands seventy-five feet above the cliffs, near which are some sulphur springs, called Ayn-al-Kabrit,‡ bordering the stream. Bash-Tabiyeh is in some repute as a dungeon of more than ordinary strength and depth. We did not test it by a descent into its vaults, but passed gradually onwards, along the ramparts of the town, to the Sinjar gate,§ every bastion of which, and indeed around the whole town, was duly added to the map in the evening. The wall is a simple looped curtain, of no great strength, supported by irregular semi-lunar bastions, varying in size, having a ditch, on an average of twenty feet in depth by fifty broad, beyond it. The positions of the

* Upwards of five centuries.

† Turkish, signifying "chief bastion;" باش طابيه

‡ عين الكبريت Arabic.

§ باب السنجار Bab-es-Sinjar.

principal tombs and public mosques were also carefully ascertained, as well as those of the gates on all sides of the city. The Pacha's private residence, and the barracks for the artillery, stand on the margin of the Tigris, to the south-east of the walls, and the arsenal, or Top-Khaneh,* intermediate between them and the gateway called Bab-el-Tope,† or "gate of the gun," near the water entrance to the town. Some little distance east of the Top-Khaneh is the venerated mosque of Khidhr Elyas, one of the many buildings dedicated to the prophet of that name distributed over the Mahomedan empire.‡ To the west again is the tomb of antediluvian Seth, or that of some one who has usurped the honours of his name and burial. Nebi Allah Shyth,§ "Seth, the prophet of God," is the title given him by all sects, and, from the concourse of people visiting the shrine, it is one of more than ordinary sanctity. These tombs, and the public buildings as above enumerated, south-east of the town, are very picturesque objects at a distance, but a nearer approach shows the former surrounded by the huts and tents of the miserable population of the suburbs; and the distant beauty of the Pacha's residence and barracks is dispelled by the want of regularity in the design of the wings, which appear to have been pitched upon the main buildings as circumstances suggested the necessity for their construction. Yet, we believe, they were actually planned as they stand. Taste, however, is purely conventional in Turkey, whether as regards architecture or costume, individual convenience being more consulted than elegance of design; and in the cut of "inexpressibles" they have, in our opinion, the advantage of us in both respects. There is a tolerable market beyond the walls on this side of the town, and the bazars within are well supplied with fruits and grain, both of which are plentiful and cheap at all times. The houses are superior to those of Baghdad, inasmuch as they are built of limestone and a coarse gypsum, abounding at no great distance. The streets are not, however, to our taste, being narrow, irregular, and cobbled with a huge pebble, most inconvenient to the feet of both horse and foot, especially after heavy rains. Cemeteries exist in the open parts of the town within the walls, but amply stocked burial-grounds border the town ditch, from the Bab-es-Sinjar to the tomb of Seth eastward. There are a few raised tombs on these mounds of corruption, the principal of which are named Penjeh, پنجه, and Kathyb-al-Ban, قضيب البان. Our occupation obliged us to take stations near some of the graves, and we were much disquieted in our task by the plaintive cries which recently-bereaved women were uttering over their buried relatives beneath. One young and strikingly

* طوب خانه Turkish. † باب الطوب Compound Arabic and Turkish.

‡ It is known also as the Jama-al-Ahhmar, or "red mosque," though its snow-white appearance belies its name. جامع احمر § نبي الله شيث Arabic.

handsome creature heeded not our presence, absorbed as she was in her grief. Her heart seemed breaking, indeed, by the depth of her sobs, as she threw herself at full length on the ground and embraced the envied soil which separated her from the departed. We quitted the scene of such lamentation, glad enough to recross the Tigris, to our camp in the desolations of Nineveh; but we shall return to Mosul again, after the completion of operations to the south.

Having spent an intermediate day in laying down the preliminaries requisite for the construction of Sheet III. of the vestiges of Assyria, we struck the camp at Koiyunjik, and were in full march for Nimrud, on the morning of March 23rd. Crossing the Khosr, now much subdued, we kept near its old bed, along the west wall of Nineveh, and then ascended the undulations beyond the ravine, to the south of it, in a direction for the village of Kara-qush ("black eagle").* The road lay past the hamlets of Kojak† and Eytler-koi ;‡ which latter borders on a defile and torrent coming from the plains and rising grounds to the north-east. These, as well as most of the villages in the Mosul district, have reservoirs for accumulating rain-water in their vicinity. Some Hubara, a species of bustard, were here and there observed on the route. They were, however, too wary for our guns, but we nevertheless enjoyed a breakfast al fresco on the heights, in which Soyer's patent stove was brought into action with success. We pushed on again, stopping to take angles occasionally for determining the position of the Lak-koi§ and Aliresh‖ villages. Near the former, another ravine with a torrent is passed, over a substantial bridge built by a liberal and pious Arab, as a charitable work. An inscription records the name and purpose of the founder, and a fine ancient Teppeh¶ stands on the slope of the ridge, not far distant from it, in the direction of the village. The map, however, shows the situation of these as well as other places; we therefore confine ourselves to noting the beauty of the country, which in this season can scarcely be equalled. The gentle slopes of the ridges are of an emerald green, set off by herds of antelopes gamboling in the distance, and large flocks of sheep enjoying the pastures on every hand. A plentiful variety of flowers diversifies the picture; and though we were in the saddle the whole day until dark, in taking up new positions for the survey, we experienced no fatigue. As night set in we reached the camp, pitched in a clear open spot, near a reservoir at the Christian village of Kara-qush, which occupies the crumbled mounds of some ancient position we are still ignorant of.

We seemed objects of much curiosity to these people, and were favoured with the glances of the fresh ruddy-faced girls that passed

* قراقوش Turkish. † قوجاق ‡ ايتلركوي Turkish.
§ لك كوي Turkish. ‖ علي شر Persian? ¶ "Mound," طپه Turkish.

to and fro with their pitchers, for filling at the reservoirs. Their open smiling countenances offered a pleasing contrast to those of the shy and sallow beauties in the towns. They were evidently amused at our proceedings, and we thought were quizzing our whimsical costumes. The men stalked about, morose, yet silently inquisitive, though keeping at a respectful distance. This seemed odd, considering we were Christians like themselves, and had anticipated a far different reception, when our wanderings should throw us among those of the name. It proved otherwise, however. In every Christian village we came to we found the men abrupt in character and speech. The courtesy generally experienced by the Englishman from all sects and classes of Mahomedans was absent in the Christian villagers, who strolled about with a *brusquerie* that was marked, if not openly annoying. The priests of the community kept aloof, nor did the head men, as is the custom in Mahomedan places, ask the stranger if there was anything needed to his wants. It appeared mysterious, and, after witnessing similar behaviour subsequently in other places, we set the Christians down as the most thoroughly unenlightened sect in the Turkish empire. They certainly enjoy a greater freedom here than in other parts of the same territory, and rudeness may therefore be partly the result of comparative independence; but we have since thought, in connection with the accounts we have heard, that much which we witnessed was due to our persuasion as Protestants alone. Led by the priesthood, and protected by the Roman Catholic powers, this may happen with the ignorant; nor can we well express surprise at it, when the better educated of the clergy here, to suit their own purposes of exclusiveness—as was lately the case at Diarbekir—seek to injure the Protestant missionaries of America in the opinion of the Turkish authorities, by insinuations latently propagated by themselves.

March 24th.—The caravan was despatched, as yesterday, by the road leading direct from Kara-qush to Nimrud, while we continued our survey. Before proceeding, however, we visited the outside of the Syrian Catholic church dedicated to the Virgin, for the purpose of examining the cuneiform-inscribed bricks brought from the neighbourhood of Keremlis, for the repairs of the building. These bricks looked quite fresh and new, and, according to Colonel Rawlinson, were impressed with the name and titles of Sargon. Prayers were performing in the church, in a monotonous chant; and, booted as we were, we had no curiosity to enter. The interior of the village, and costume of the people gave, however, no favourable idea of their wealth or cleanliness, and we passed on, concerned at the prospect presented by the first Christian village we had alighted on. A wet sponge appeared to have been drawn across the brilliant clear sky of the previous evening, and

exposed us to passing showers. Bellawat,* an artificial mount, lay on our left, where we proceeded for angles, which we got from the summit of one of the two tombs built upon it. It is sometimes named Kara-teppeh,† or "black mound," the former name being also that of a village a little to the south-east of it. The appearance of a ditch surrounds the pile, and inclines us to regard it as an ancient keep or stronghold, for the protection of the fine valley watered by the small rivulet, which, coming from the Ayn-es-Safra hill, flows past Keremlis and Kara-qush onwards to Nimrud; and an imperfectly defined causeway, from the mound across the ditch, in some measure confirms the idea. Rape in full blossom covered the bed of the latter, in pretty relief to the dark mound and green sward beyond. Ploughed fields and cultivation cease below this point, where the territory of the roving Arab is entered upon. The tents of a party of Dellim‡ were, indeed, adjoining the mound, and we had scarcely dismounted when the chief rode up, and courteously invited us to his camp, in the following terms: "Peace be upon you! in the name of God enter our tents; they are yours; come and partake of what we can lay before you." The words of the Mussulman robber, empty as they may have proved, sounded grateful on our ears, and cast a deeper shade over the Christian picture we had just left; for the courteous frankness of the Arab contrasted well with the surly silence of him who has had the Samaritan for a guide.

We had breakfasted again *al fresco*, and resumed our movements onwards to Khidhr-Elyas,§ a Christian church, over a piece of country hitherto vacant in our maps. Rain fell, and we bent our steps towards the building of the above name, partly from curiosity, and partly to shelter ourselves under its roof. We could not, however, gain admittance, the low and strong door being fastened, and all our shouts proved abortive in procuring answers from within. Some of our people proposed to fire the gate, but this, of course, we would not permit; and after waiting patiently for an hour, we quitted the spot, having examined the sacristy, partly sunk under ground, in the base of an Assyrian mound near the chapel. This is a much-revered spot, where Mar Behnan, or, as it is more properly spelt, Mar Behnam,‖ an early Christian martyr, is said to be interred. It dates as far back as about the third century of Christ, and is, perhaps, one of the oldest sanctuaries now standing devoted to Christian observances. It boasted formerly of an excellent library, and has still, we believe, one or two pictures of holy

* قراطپه Arabic. † قاراوبه Turkish.

‡ These are of the same tribe as the great family of the name owning the territory on both sides of the Euphrates, between Felugia and Hit. Blood feuds have caused them to separate.

§ خضر الياس "The prophet Elias."

‖ بهنام "good name," Persian.

personages, by the early masters, though they are at present torn and defaced. From without it has the appearance only of a stronghold, there being nothing in character to denote it as the abode of religion and peace. It has, indeed, on many occasions had to stand a siege, in the precarious position it holds, subject to the assaults and demands both of the Bedouins and the Turkish soldiery. We observed people moving off as we approached, and the adjoining villages were tenantless also; a sure sign of alarm, perhaps caused by our movements from hill to hill, in furtherance of our work. The sacristy is a neat circular apartment, ornamented with marble pieces, crucifixes, and inscriptions in the Estrangelo character. It is said to be connected with the chapel by a subterraneous passage, similar to that which leads from the outside to the interior of itself. This we could not hit upon, and we heard it had been blocked up when the Turkish soldiery on one occasion tore up the marble floor, in search of treasure said to be concealed there. Marble ornaments, inscriptions, and scrolls of great beauty, are reported in the fittings of the altar and chancel of the church itself; all of which bear a very early date, and are much-esteemed relics. We were, thereof, disappointed at not viewing the interior. The inmates, ignorant of our intentions, acted wisely in maintaining a strict concealment. But they were evidently watching our proceedings, as, when we got about musket-shot off, they showed themselves on the walls, and had we returned and urged an entry a second time, it would perhaps have led to an open fight. Some of our Roman Catholic servants, indeed, some days after proceeded with the intention of praying there, and had nigh been shot for their zeal by the Friar Tuck order of monks who watch over its security. Khidhr Elyas, the name of the prophet Elias, is a mere *nom de guerre*, given to the place by the Christian priesthood in troubled periods, to enlist the sympathies of the Mahomedans, who venerate all the inspired personages of Jewish history and tradition.

We now bent our steps along the valley of the Shor Derreh,* on the same track, indeed, which the harassed 10,000 Greeks doubtless took twenty-two centuries back, and in a short time stood on the crumbled walls around the palaces of Nimrud. Crossing the great waste in the interior of the ancient city, a hare sprang from its seat among the mounds and afforded a burst for a few minutes; the horses were, however, too tired for a run over the ploughed lands, and puss showed she had the advantage by soon doubling out of sight. We gave no more than a passing glance at the excavated palaces in the platform around the great pyramid, but made direct for the tents pitched near the mud

* شور دره Turkish for stagnant brackish water in ravines.

hamlet of Nimrud, where Layard so long had a dwelling, and within their walls worked-in our triangulations of the preceding days, previous to the commencement of further operations.

March 25th.—The day broke with a threatening aspect, but after re-adjusting our instruments, the new base line was measured for the large-scale survey of Nimrud exhibited on Sheet II. In the middle of our task the rain broke on us in a perfect storm, compelling us to return for shelter to our tents, and these afforded but a poor retreat. We were soon in the midst of a sea of water, the whole plain around being submerged by the torrents that fell. The wind, too, blew a hurricane, and at one time, notwithstanding the ropes were "backed," threatened to leave us exposed to its fury by carrying off the tents from above us; fortunately the gale took off in an hour or so, but everything was completely saturated. It required all our care, indeed, to keep the maps and instruments from being spoiled. Such a palpable darkness at midday could seldom be witnessed; earth and sky seemed blended in one general gloom, as if the anger of the gods still rested on Nimrud; the curse of Job in its fullest extent seemed, indeed, about to be realized while the storm lasted. The wild cats which infest the ruins were driven from their haunts, and coursed over the plain, through pool and mud, like "legion possessed," in search of a securer retreat in the mud hamlet adjoining. Further operations it was evident were at an end for this day, but the morrow brought with it better auspices, and the base was completed, not without risk of rheumatism to the whole party. A good round of angles was obtained from the summit of the great pyramid; these enabled us to compute its position independently of astronomical observations. These were, however, obtained also, and in a very satisfactory manner corroborated our triangulations; an agreement certainly not anticipated, considering the unfavourable weather we had encountered. From the summit of the pyramid the whole of the great plain is distinctly in view, but a few feet down the intervening land shuts out everything beyond the distance of a mile or so. This fact alone inclines us to think it was used as a pharos for signalling the places around; the trenches through it in every direction lead to the conclusion of its being a solid structure, such as is described by Layard. The great tablet lies in fragments on its south side, and a fine view of the excavated galleries faced with sculptured slabs in the various palaces is obtained from this eminence. Mosul and the ruins of Nineveh are distinctly seen too, though at eighteen miles' distance; as also the numerous Assyrian tumuli in the plains south-east of the Zab. In the afternoon the Tel Kema* was

* تل كيا "Truffle mound," Arabic.

examined and added to the map, with the line of water-margin where the Tigris anciently flowed along the palaces of Nimrud to this spot. We experienced some difficulty, indeed, in extricating ourselves from the swamps occasioned by the waters of the Shor Derreh flowing into its bed. It was nightfall before we reached the tents.

The following day was fine, and the extent of the walls of Nimrud was completed. While effecting this, some party had set fire to the bitumen springs in the bed of the Shor Derreh; the fumes and smoke tainted the whole plain around; this practice appears to be a prevalent one with the idle Arabs in the vicinity. To-day our horses exhibited much fatigue, from the necessity of visiting every spot in order to fix the positions aright.

March 28th.—A leaden mantle had again been cast over the whole sky, and shortly after daybreak rain fell in torrents, precluding all works abroad; but the confinement served to bring up the map, and the indoor work of calculations, &c.

March 29th.—Raining still, and the effects of it beginning to tell on our wearied beasts as well as on ourselves. The best horse, indeed, appears in the last agonies, and various remedies are brought to bear on the case by our Arab friends; an old greybeard Moslem is called in to recite a particular verse from the Koran, adapted, as he says, to such accidents; but it failing, a young girl was produced as a secondary resource in such cases. Lifted by one of the bystanders, she was seven times placed astride on the prostrate animal, while the greybeard chanted anew the formula prescribed for such maladies. Still the horse remained obstinate, and would not recover, and at last a proposition was made to walk him thrice round the graveyard of the village; could he be only made to stand. By dint of blows and manual exertion, he was at last placed on his legs, and with difficulty dragged through the ceremony that was announced as a certain restorative. Alas! however, it was ineffective as the former, and elicited a laugh on the horse falling again, after the termination of the ordeal. This was conclusive of a want of faith in the infidel portion of the bystanders, and hence the failure of the remedies in the minds of our Arab friends. These facts are mentioned, only to show how simple Arab credulity is, and to what extravagant acts superstition will lead: An Arab of the Zobeyd, at no great distance, we are informed too, possesses a stone of wonderful powers in case of strangury; but the incredulity we had already displayed was sufficient reason for its being hid from us, as its properties, we were told, would certainly deteriorate, if exposed to such influences. Copious bleeding, however, brought about what the charms had failed to produce, and we were gratified in

the evening, on our return from tracing the river's banks to the northward, to find the animal again on his legs, though sadly enfeebled by his late exertions. The old beds of the river with its modern course, including the great dam at Awai, were traced in this day; the French party from Khorsabad were our guests for this evening. They had arrived in the morning, and occupied the day in examination of the ruined chambers and palaces in the mounds of Nimrud. On this occasion a sheep was killed for the workmen by direction of Colonel Rawlinson, and the feast was enlivened by Arab chants; and dancing to the sound of the "dumbek," the "daff,"* and the lyre, kept up to a late hour.

March 30th.—All nature is gay enough this morning under an unclouded sky, and many new and gorgeous flowers are opening under such influences, to be consigned, however, to a premature blight, as soon as their beauties attract the keen eye of our botanical companion. The earth over the ancient palaces was literally enamelled with the little delicate lily, which, Colonel Rawlinson believes, gave its name to the celebrated Susa, or Shushan of scripture. The ancient beds of the Tigris to the south were traced in to-day, the principal one being that of Sirat al'bu Debban, or "the prowler's way," which bears evidence of being occupied by the river for a very long period. It is now quite dry, and affords a species of broom used by the Arab women of the encampments around in the clay ovens hastily erected wherever these people pitch their tents. We passed many camps in our wanderings of to-day, and were welcomed at all; men came forth inviting us to dismount, while women bore on their heads well-plenished bowls of buttermilk, which we did ample justice to under the fatigue we had undergone. The principal tribes, at present pasturing on the Nimrud plains, are the Shememteh or Shematteh, a branch of the great family Zobeyd, now occupying Babylonian Irak; the Jeheysh, another part of the same great tribe, both separated for a long period; the Agadat, which are members of the powerful tribes of the same name, owning the tract west of the Euphrates between Anah and Deir; the Hadidin, originally from the Syrian plains about Aleppo and Antioch; the Al'bu-Bedran, another portion of the Zobeyd; the Al'bu Selman; the Jaif; and the Jebour. These are all, in fact, discontented members of larger tribes, who have sought asylums here, either from oppressions, or from having blood feuds of long standing with the more powerful families they are connected with, and are so far degraded as to have lost the Bedouin character and habits, still professed by some of the families they sprang from. They are now but partially nomade,

* Arab names for a species of drum.

for they occupy mud villages in winter, and wander in the spring only for the benefit of pasturing their flocks on the fertile lands adjoining these fine streams. The eastern suburbs of Nimrud and valley of the Shor Derreh were added to the map to-day.

From this time to April the 14th, the minor details around Nimrud were filled in; and the course of the ancient canal, leading from the Zab, was traced as far as Gubbeyeh, a high mound with evident remains of building around it in the soil at the base; this is on the bank of the Zab near its junction with the Tigris; it would, doubtless, yield Assyrian relics, if opened. Near this are located a party of Ma'amreh Arabs, also of the Zobeyd families: they are all Syeds or descendants of the Prophet, and, if we are to credit their own tale, not robbers but simple Momenin, or those who prefer peace and the study of religious doctrines to violence and a predatory life. They had the appearance, indeed, of sanctified beggars in rags, as ready to steal as to pray; they were, nevertheless, well-disposed and courteous, living here in great dread of the Shamar Bedouins located in the wilds on the other side of the Tigris, who, they inform us, frequently cross, though the river is at a great height, and carry off all before them. A few nights ago three women of their party were suddenly set upon by a band that had crossed the flood on inflated skins: they were stripped of everything, and sent back to their tents *in puris naturalibus;* an outrage of only recent perpetration among true Bedouin families, who, by their rude laws, until very lately, under every provocation, spared women an indignity of this kind. Such atrocities show how degraded the Bedouin has become; but in justice to him we must say they are committed in retaliation of injuries which the female members of his family have suffered at the hands of the Turkish soldiery when they have fallen into their power. We cannot be surprised, therefore, if the Bedouin virtues, under such examples, give way to acts that were formerly foreign to their nature.

Our further operations among the ruins of Assyria must be summed up in outline, for we are pressed with time, and indisposition will not permit of a lengthened detail. Layard has treated so fully on these subjects that we should, indeed, be engrossing public attention to little purpose, were we to dwell further on these, at present, well-known localities. The contents of his second volume, now put into our hands, warn us that we should stop; it will therefore suffice to say that the ruins of the ancient Assyrian town, now occupied by Selamiyeh, were carefully surveyed, as were the features of the country, heretofore unknown, occupying the space between the Zab and Khorsabad. The maps themselves, we trust, will be explicit enough on these points; and, in

concluding, we hope to add to our knowledge of these interesting regions by a more extensive examination, at a no very distant period. The hills bordering the Ghazr-su and the Zab yet require more detailed notices; and the great ruins of Shemamek and Arbil, prolific as they are in ancient sites, should find a place in our maps, which, by-the-bye, are grievously faulty and defective as they at present stand. These we propose to amend as opportunities offer, and append to the present sheets some astronomical and geodesical data, which, in connection with the work before us, will aid in filling a material blank.

FOR THE CONSTRUCTION OF THE GENERAL MAP OF ASSYRIA AND MESOPOTAMIA.

Table showing the result of the Astronomical and Traverse Operations on the main Road between the Cities of Baghdad and Mosul.

Names of Places North of Baghdad.	Position of Observation.	Difference of Longitude from preceding place.				Actual difference of Longitude from Baghdad.	Difference of Longitude deduced from daily Traverse Operations.	Latitudes obtained			Position with regard to the preceding place.		Orthography of Arab names.
		Object observed.	By Dent's Chronometer No. 12,859.	By Dent's Chronometer, No. 12,860.	Mean of the Chronometers.			Object observed.	By Astronomical Observation.	By Traverse Operations.	Bearing.	Distance.	
			′ ″	′ ″	′ ″	° ′ ″	° ′ ″		° ′ ″	° ′ ″	°		
Khan Nahrwan on the ancient Katul.	Doorway.	⊙	6 48 E.	5 12 E.	6 0 E.	0 6 0 E.	0 6 0 E.	⊙	33 52 58 N.	33 53 0 N.	N. 8½ E.	33 4	خان نهروان
Delli Abbas, on the Khalis Canal.	Bridge W. 150 yards.	♀	21 25 E.	21 34 E.	21 29 E.	0 27 29 E.	0 25 15 E.	*	34 4 9 N.	34 5 30 N.	N. 52 E.	20 3	دلی عباس
Kara-teppeh, village.	Mound called Nimaz-Kalan teppehsi.	⊙	3 28 E.	3 49 E.	3 38 E.	0 31 7 E.	0 29 30 E.	⊙	34 24 43 N.	34 23 41 N.	N. 10½ E.	19 9	قراتپه
Kifri, village.	Khan, roof.	♀	2 27 E.	2 2 E.	2 15 E.	0 33 22 E.	0 32 19 E.	*	34 41 30 N.	34 42 30 N.	N. 7½ E.	17 9	كفري
Duz-Khurmatti, village.	North extreme of village.	♀	20 16 W.	20 14 W.	20 15 W.	0 13 8 E.	0 11 30 E.	*	34 53 1 N.	34 51′42 N.	N. 59 W.	20 0	طوزخرمتی
Taouk, ancient Dakuk village.	Centre of the ancient fort.	♀	11 9 W.	11 19 W.	11 14 W.	0 1 54 E.	0 0 30 W.	*	35 7 46 N.	35 7 14 N.	N. 34½ W.	17 3	طاوق
Kerkuk, town.	21″ west of the SW. extreme of citadel.	♀	2 54 W.	2 56 W.	2 55 W.	0 1 1 W.	0 4 45 W.	*	35 28 2 N.	35 26 45 N.	N. 11½ W.	19 4	كركوك
Altun Kupri, bridge & Khan on the lower Zab.	100 yards NW. of the Khan.	♀	15 35 W.	15 38 W.	15 36 W.	0 16 37 W.	0 22 45 W.	⊙	35 45 21 N.	35 46 21 N.	N. 38 W.	23 2	التون كوپري
Arbil, town, ancient Arbela.	NW. extreme of citadel mound.	♀	.. ..	7 34 W.	.. ..	0 24 11 W.	0 29 10 W.	*	36 11 0 N.	36 10 58 N.	N. 11½ W.	26 1	اربيل
Kellak, village & ferry on the Upper Zab.	100 yards north of the village.	♀	.. ..	20 49 W.	.. ..	0 45 0 W.	0 50 19 W.	*	36 15 53 N.	36 16 35 N.	N. 72 W.	17 9	كلاك
Mosul, ancient Mespila.	Highest and most ancient minaret in the town.	⊙	.. ..	31 42 W.	.. ..	1 16 52 W.	1 18 35 W.	⊙	36 20 16 N.	36 19 43 N.	N. 80 W.	22 7	موصل

(Approximative) Longitude of the Minaret of the Suk-al-Ghazil at Baghdad, 44° 25′ East.

Traverses made on the Journey to Mosul, for the delineation of the road between it and Baghdad, commencing from the Khan Nahrwan, which is in lat. 33° 53′ N., and 6 miles east of the latter city.

1st Traverse.—Feb. 26th, 1852.

KHAN NAHRWAN to DELLI ABBAS.

Courses corrected for variation throughout, which is 4° west; average rate 3 miles per hour.

Courses.	Times.	Distances.	N.	S.	E.	W.
	m.					
N. 67° 30′ E	3	·15	·057	....	·139	....
N. 67 E	25	1·25	·488	....	1·151	....
N. 63 E	40	2·00	·908	....	1·782	....
N. 57 E	25	1·25	·681	....	1·048	....
N. 48 E	36	1·80	1·204	....	1·338	....
N. 39·15 E	20	1·00	·774	....	·633	....
N. 50 E	29	1·25	·803	....	·958	....
N. 24 W	30	1·25	1·142	....	....	·508
N. 45 E	40	2·00	1·414	....	1·414	....
N. 41 E	60	3·00	2·264	....	1·968	....
N. 76 E	30	1·20	·290	....	1·164	....
N. 74 E	30	1·00	·276	....	·961	....
S. 73 E	15	·75	....	·219	·717	....
S. 83 E	5	·15	....	·018	·149	....
N. 12·30 E	50	2·00	1·953	....	·433	....
N. 80 E	65	2·75	·478	....	2·708	....
			12·732	·237	16·563	·508
			·237		·508	
			12·495		16·055	

Diff. lat. 12′ 30″ N. Diff. long. 19′ 15″ E.
Co. N. 51° 57′ E. 20·3 miles.

2ND TRAVERSE.—FEB. 27TH, 1852.

DELHI ABBAS TO KARA TEPPEH.

Courses.	Times.	Distances.	N.	S.	E.	W.
	m.					
N. 4° E	70	3·00	2·993	....	·209	....
N. 6 E	78	3·88	3·859	....	·406	....
N. 59·30 W	13	·65	·334	....	....	·558
N. 21 E	22	1·00	·934	....	·358	....
N. 26 E	40	1·50	1·348	....	·658	....
N. 30 E	25	1·00	·866	....	·500	....
N. 43 E	35	1·70	1·243	....	1·159	....
N. 34 E	15	·75	·622	....	·419	....
N. 28 E	10	·50	·441	....	·235	....
N. 16 W	25	1·25	1·202	....	....	·345
N. 18 E	25	1·25	1·189	....	·386	....
N. 1 E	95	4·50	4·500	....	·078	....
			19·531	....	4·408	·903
					·903	
					3·505	

Diff. lat. 19′ 32″ N. Diff. long. 4′ 15″ E.

Co. N. 10° 29′ E. 19·9 miles.

3RD TRAVERSE.—FEB. 29TH, 1852.

KARA TEPPEH TO KIFRI.

Courses.	Times.	Distances.	N.	S.	E.	W.
	m.					
N. 17° E	65	3·25	3·108	....	·950	....
N. 16 E	20	1·00	·961	....	·276	....
North	23	1·15	1·150	....	....	....
N. 8 E	25	1·25	1·238	....	·174	....
N. 16 E	27	1·35	1·298	....	·372	....
N. 2 W	43	2·15	2·149	....	....	·075
N. 27 W	22	1·10	·980	....	....	·499
North	68	3·35	3·350	....	....	....
N. 6 W	14	·70	·696	....	....	·073
N. 6 E	20	1·00	·995	....	·105	....
N. 12 E	38	1·90	1·858	....	·395	....
			17·783	....	2·272	·647
					·647	
					1·625	

Diff. lat. 17′ 47″ N. Diff. long. 2′ 49″ E.

Co. N. 7° 26′ E. 17·9 miles.

4TH TRAVERSE.—MARCH 1ST, 1852.

KIFRI TO DUZ KHURMATI.

Courses.	Times.	Distances.	N.	S.	E.	W.
	m.					
N. 64° W.....	70	3·50	1·534	....	....	3·145
N. 55 W.....	38	1·90	1·090	....	....	1·556
N. 72 W.....	27	1·35	·417	....	....	1·284
N. 72 W.....	14	·70	·216	....	....	·666
N. 71 W.....	26	1·30	·423	....	....	1·229
N. 69 W.....	40	2·00	·717	....	....	1·867
N. 69 W.....	60	3·00	1·075	....	....	2·801
N. 66 W.....	15	·75	·305	....	....	·685
N. 61 W.....	48	2·35	1·139	....	....	2·055
N. 48 W.....	12	·60	·401	....	....	·446
N. 36 W.....	15	·75	·607	....	....	·441
N. 31 W.....	7	·35	·300	....	....	·180
N. 25 W.....	33	1·65	1·495	....	....	·697
North	10	·50	·500	....	....	....
			10·219	....	....	17·052

Diff. lat. 10′ 12″ N. Diff. long. 20′ 49″ W.

Co. N. 59° 13′ W. 20·0 miles.

5TH TRAVERSE.—MARCH 2ND, 1852.

DUZ KHURMATI TO TAOUK.

Courses.	Times.	Distances.	N.	S.	E.	W.
	m.					
N. 34° W.....	90	4·50	3·731	....	....	2·517
N. 51 W.....	53	2·65	1·668	....	....	2·059
N. 26 W.....	14	·70				
N. 26 W.....	13	·65	1·663	....	....	·811
N. 26 W.....	10	·50				
N. 32 W.....	15	·75	·636	....	....	·397
N. 44 W.....	30	1·50	1·079	....	....	1·042
N. 30 W.....	70	3·50	3·031	....	....	1·750
N. 8 W.....	5	·25	·248	....	....	·035
N. 30 W.....	50	2·50	2·165	....	....	1·250
			14·221	....	....	9·861

Diff. lat. 14′ 13″ N. Diff. long. 12′ 00″ W.

Co. N. 34° 36′ W. 17·3 miles.

6TH TRAVERSE.—MARCH 3RD, 1852.
TAOUK TO KERKUK.

Courses.	Times.	Distances.	N.	S.	E.	W.
	m.					
N. 16° W.....	25	1·05	1·009	....	....	·289
N. 53 W.....	50	2·50	1·505	....	....	1·997
N. 32 W.....	40	2·00	1·696	....	....	1·060
N. 27 W.....	20	1·00	·891	....	....	·454
N. 25 W.....	10	·50	·453	....	....	·211
N. 33 W.....	30	1·50	1·258	....	....	·817
N. 33 W.....	55	2·75	2·306	....	....	1·498
N. 7 E.....	80	4·00	3·970	....	·488	....
N. 7 E.....	35	1·75	1·737	....	·213	....
N. 14 E.....	10	·50	·485	....	·121	....
N. 27 E.....	10	·50	·446	....	·227	....
N. 29 E.....	30	1·50	1·312	....	·727	....
N. 17 E.....	40	2·00	1·913	....	·585	....
			18·981	....	2·354	6·326
						2·354
						3·972

Diff. lat. 18′ 59″ N. Diff. long. 4′ 45″ W.
Co. N. 11° 31′ W. 19·4 miles.

7TH TRAVERSE.—MARCH 4TH, 1852.
KERKUK TO ALTUN KIUPRI.

Courses.	Times.	Distances.	N.	S.	E.	W.
	m.					
N. 57° W.....	50	2·50	1·362	....	....	2·097
N. 34 W.....	37	1·85	1·534	....	....	1·035
N. 57 W.....	28	1·50	·817	....	....	1·258
N. 63 W.....	17	·85	·386	....	....	·757
N. 28 W.....	10	·50	·441	....	....	·235
N. 37 W.....	23	1·15	·918	....	....	·692
N. 23 W.....	25	1·25	1·151	....	....	·488
N. 3 W.....	10	·50	·499	....	....	·026
N. 60 W.....	33	1·65	·825	....	....	1·429
N. 63 W.....	22	1·10	·499	....	....	·980
N. 17 W.....	10	·50	·478	....	....	·146
N. 33 W.....	10	·50	·419	....	....	·272
N. 37 W.....	7	·36	·288	....	....	·217
N. 3 W.....	13	·65	·649	....	....	·034
N. 15 W.....	15	·75	·724	....	....	·194
North	35	1·75	1·750	....	....	....
N. 10 W.....	22	1·10	1·083	....	....	·191
N. 78 W.....	3	·15	·031	....	....	·147
N. 65 W.....	23	1·15	·486	....	....	1·042
N. 40 W.....	67	3·50	2·681	....	....	2·250
N. 31 W.....	30	1·50	1·286	....	....	·773
			18·307	....	....	14·263

Diff. lat. 18′ 19″ N. Diff. long. 17′ 30″ W.
Co. N. 37° 53′ N. 23·2 miles.

8TH TRAVERSE.—MARCH 6TH, 1852.

FROM ALTUN KIUPRI, ON THE LESSER ZAB, THE ZAB-EL-ASFAL OF ABUL FÈDA, TO ARBIL OF ALEXANDER'S CAMPAIGN.

Courses.	Times.	Distances.	N.	S.	E.	W.
	m.					
N. 16° W.....	47	2·35	2·259	....	....	·648
N. 25 W.....	30	1·50	1·359	....	....	·634
N. 3 E.....	39	1·95	1·947	....	·102	....
N. 5 W.....	29	1·45	1·444	....	....	·126
N. 25 W.....	50	2·50	2·266	....	....	1·057
N. 17 W.....	48	2·40	2·295	....	....	·702
N. 8 W.....	10	·50	·495	....	....	·070
N. 15 W.....	45	2·25	2·173	....	....	·582
N. 11 W.....	85	4·25	4·172	....	....	·811
N. 6 W.....	125	7·25	7·211	....	....	·759
			25·621	....	·102	5·389
						·102
						5·287

Diff. lat. 25′ 37″ N. Diff. long. 6′ 25″ W.

Co. N. 11° 27′ W. 26·1 miles.

9TH TRAVERSE.—MARCH 7TH, 1852.

FROM ARBIL TO KELLAK, ON THE UPPER ZAB, THE ZAB-EL-ALA OF ABUL FEDA.

Courses.	Times.	Distances.	N.	S.	E.	W.
	m.					
N. 63° W.....	44	2·20	·999	....	....	1·960
N. 43 W.....	20	1·00	·731	....	....	·682
N. 35 W.....	37	1·85	1·515	....	....	1·061
N. 68 W.....	26	1·30	·487	....	....	1·205
N. 77 W.....	19	·95	·214	....	....	·926
N. 48 W.....	25	1·25	·836	....	....	·929
N. 59 W.....	29	1·45	·747	....	....	1·243
N. 53 W.....	12	·60	·361	....	....	·479
N. 53 W.....	4	·20	·120	....	....	·160
N. 70 W.....	61	3·05	1·043	....	....	2·866
S. 75 W.....	7	·35	....	·091	....	·338
S. 77 W.....	39	1·95	....	·439	....	1·900
N. 89 W.....	31	1·55	·027	....	....	1·550
S. 61 W.....	40	2·00	....	....	....	1·749
			7·080	1·500	....	17·048
			1·500			
			5·580			

Diff. lat. 5′ 35″ N. Diff. long. 21′ W.

Co. N. 71° 49′ W. 17·9 miles.

10TH TRAVERSE.—MARCH 8TH, 1852.

KELLAK, ON THE UPPER ZAB, TO MOSUL AND NINEVEH.

Courses.	Times.	Distances.	N.	S.	E.	W.
	m.					
N. 83° W.....	38	1·90	·232	....	....	1·886
N. 80 W.....	59	2·95	·512	....	....	2·905
N. 68 W.....	71	3·55	1·330	....	....	3·292
N. 42 W.....	24	1·24	·921	....	....	·830
N. 57 W.....	38	1·90	1·035	....	....	1·593
N. 61 W.....	48	2·40	1·164	....	....	2·099
N. 80 W.....	24	1·20	·208	....	....	1·182
S. 72 W.....	33	1·65	....	·510	....	1·569
S. 85 W.....	85	4·25	....	·370	....	4·234
S. 77 W.....	60	3·00	....	·675	....	2·923
			5·402	1·555	....	22·513
			1·555			
			3·847			

Diff. lat. 3′ 50″ N. Diff. long. 27′ 50″ W.

Co. N. 80° 13′ W. 22·5 miles.

Aggregate of Daily Results.

		N.	S.		E.	W.
Feb. 26, 1852.	Diff. lat.....	12′ 30″	..	Diff. long.	19′ 15″	....
Feb. 27, „	„	19 32	..	„	4 15	....
Feb. 29, „	„	17 47	..	„	2 49	....
Mar. 1, „	„	10 12	..	„	....	20′ 49″
Mar. 2, „	„	14 13	..	„	....	12 00
Mar. 3, „	„	18 59	..	„	....	4 45
Mar. 4, „	„	18 19	..	„	....	17 30
Mar. 6, „	„	25 37	..	„	....	6 25
Mar. 7, „	„	5 35	..	„	....	21 00
Mar. 8, „	„	3 50	..	„	....	27 50
					26′ 19″	110′ 19″ W.
						26 19 E.
Diff. lat. from Khan Nahrwan..		2° 26′ 34″ N.				
Lat. of Khan Nahrwan.....		33 53 00 N.				
				Diff. long. Mosul, west of Khan Nahrwan		84′ 00″ W.
Lat. of Mosul		36° 19′ 34″ N.				
				Khan Nahrwan, east of Baghdad		6 00 E.
				Diff. long. Mosul, west of Baghdad.....		1° 18′ 00″ W.
				Lat. of Mosul by daily results	36° 19′ 34″ N.	
				Lat. of Mosul by synoptical table.....	36 19 56 N.	
				Mean lat. of Mosul.....	36° 19′ 45″ N.	
				Diff. long. Mosul, W. Baghdad, by daily results, + 30′ to Minaret....		1° 18′ 30″ W.
				Do. do. by synoptical table		1 17 02 W.
				Means. Mosul Minaret, west Baghdad		1° 17′ 46″ W.

A Synoptical Table of Courses and Distances made daily between Baghdad and Mosul.

Names of Places.	Courses.	Distances.	N.	S.	E.	W.
Baghdad to the Khan Nahrwan	N. 8° 32′ E.	34·0	33·62	....	5·04	....
Khan Nahrwan to Delli Abbas	N. 51 57 E.	20·3	12·51	....	15·99	....
Delli Abbas to Kara Teppeh	N. 10 29 E.	19·9	19·56	....	3·63	....
Kara Teppeh to Kifri	N. 7 26 E.	17·9	17·75	....	2·31	....
Kifri to Duz Khurmati	N. 59 13 W.	20·0	10·24	....	....	17·19
Duz Khurmati to Taouk	N. 34 36 W.	17·3	14·24	....	....	9·77
Taouk to Kerkuk	N. 11 31 W.	19·4	19·01	....	....	3·88
Kerkuk to Altun Kiupri	N. 37 53 W.	23·2	18·31	....	....	14·27
Altun Kiupri to Arbil	N. 11 27 W.	26·1	25·58	....	....	5·19
Arbil to Kellak	N. 71 49 W.	17·9	5·59	....	....	17·00
Kellak to Mosul	N. 80 13 W.	22·7	3·86	....	....	22·38
			180·27	....	26·97	89·68 26·97
						62·71

Mosul, north Baghdad.. 3° 00′ 16″
Lat. of Baghdad 33 19 40

Lat. of Mosul..... 36° 19′ 56″

Diff. long. Mosul, west Baghdad ..... 1° 16′ 32″ (place of observations.)
Minaret of the town, west of place of observation. + 30″

Minaret of the town, west Baghdad ..... 1° 17′ 02″

Course N. 19° 17′ W. Distance 190·7 miles.

STATION 4TH (3RD TRAVERSE.)—FEBRUARY 29TH, 1852.

KIFRI.

Mer. Alt. * *Rigel for Latitude.*

	93° 52′ 40″	
I. E.	30	
	93 53 10	
	46 56 35	
Ref. and Par.	— 54	
	46 55 41	
	90	
	43 4 19	N.
Decl.	8 22 49	S.
Lat. of Kifri.	34 41 30	N.

Altitudes of Venus.

		Alt.	Alt.	Alt.	Alt.	Alt.
Time by D.	12859	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″
	h. m. s.	64 24 20	64 11 20	63 58 30	63 46 00	63 33 45
	5 56 35·5	+ 30	+ 30	+ 30	+ 30	+ 30
	5 57 8·3	64 24 50	64 11 50	63 59 00	63 46 30	63 34 15
	5 57 40	32 12 25	32 5 55	31 59 30	31 53 15	31 47 7
	5 58 11	— 1 32	— 1 33	— 1 33	— 1 33	— 1 34
	5 58 44	32 10 53	32 4 22	31 57 57	31 51 42	31 45 33
	288 18·8	83 56 08	83 56 08	83 56 08	83 56 08	83 56 08
	5 57 39	34 41 30	34 41 30	34 41 30	34 41 30	34 41 30
Chron. S.	+ 6 47	150 48 31	150 42 00	150 35 35	150 29 20	150 23 11
	6 04 26	75 24 15	75 21 00	75 17 47	75 14 40	75 11 35
Long T.	2 59 48	43 13 22	43 16 38	43 19 50	43 22 58	43 26 02
	3 04 38					
H. Diff.	7 7″·1					
	3					
	231 3					
4 | 1/15	51	0·00244	0·00244	0·00244	0·00244	0·00244
½ | 1/120	6	0·08501	0·08501	0·08501	0·08501	0·08501
	287·0	9·40140	9·40207	9·40452	9·40602	9·40750
	+, 3·57	9·83559	9·83603	9·83046	9·83087	9·83728
	5 59·55	9·32444	9·32645	9·32343	9 33034	9·33223
Decl. ♀	6 3·52 N.					
	90					
P. D.	83 56·08	h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.
		3 38 48·1	3 39 21·1	3 39 53·7	3 40 25·1	3 40 56·5
		58 53·8	58 53·8	58 53·8	58 53·8	58 53·8
H. Diff.	10″·06	1 12 56·85	1 12 56·85	1 12 56·85	1 12 56·85	1 12 56·85
	3	5 50 38·75	5 51 11·75	5 51 44·35	5 52 15·75	5 52 47·15
	32 88	+ 12 41·03	+ 12 41·03	+ 12 41·03	+ 12 41·03	+ 12 41·03
4 | 1/15	73	6 3 20 38	6 3 53·38	6 4 25·98	6 4 57·38	6 5 28·78
½ | 1/120	9	5 56 35·5	5 57 8·3	5 57 40	5 58 11	5 58 44
	+ 33·70	6 44·88	6 45·08	6 45·08	6 40·38	6 44·78
	0 58 20·09	6 45·08				
Rt. asc. ♀	0 58 53·79	6 45·08				
		6 46·38				
		6 44·78				
		227 10				
H. Diff.	9·357					
	3					
	28 071					
4 | 1/15	024					
½ | 1/120	78					
	+ 28·773					
	22 46 34·28					
⊙ R.As.	22 47 03·15					
	24					
	1 12 56·85 Com. ⊙ centre.					

D.59. S.M.T	6 45·42	
D.60. S.59	1 58	
D.60. S.M.T.	8 43·42	

		m.	s.
D. 12859.	S. M. T. Khan Nahrwan, Feb. 25th	5	41·48
Gain in 99 hrs. at 11 s. daily.....			45·37
D. 12859.	S. M. T. Khan Nahrwan, Feb. 29th	4	56·11
D. 12859.	S. M. T. Kifri, Feb. 29th	6	45 42
	Diff. Long. in Time	1	49·31

		m.	s.
D. 12860.	S. M. T. Khan Nahrwan, Feb. 29th....	6	53·73
D. 12860.	S. M. T. Kifri, Feb. 29th.....	8	43·42
	Diff. Long. in Time	1	49·69

H. Diff.	·498			
	3			
	1·494			
4 | 1/15	·33			
½ | 1/120	4			
	— 1·531			
	12 43·16			
Equn.	12 41·03			

	m.	s.		
D. 12859.	= 1	49·31	≡ Diff. Long	° 0 ′ 27 ″ 20 E.
D. 12860.	= 1	49·69	≡ Diff. Long	0 27 25 E.
Means give Kifri E. Khan Nahrwan				0 27 22 E.
Khan Nahrwan E. Baghdad.....				6 E.
Kifri E. Baghdad				0 33 22 E.

STATION 5.—(4TH TRAVERSE)—MARCH 1ST.

DUZ KHURMATI.

*Mer. Alt. * Rigel for Latitude.*

	93° 29′ 40″
Index. Error	+ 30
	92 30 10
	46 45 5
Ref. Par.	— 55
	46 44 10
	90
	43 15 50 N.
Decl.	8 22 49 S.
Lat. of Duz Khurmati	34 53 01 N.

Altitudes of Venus.

Time by D. 12859	Alt.	Alt.	Alt.	Alt.	Alt.
h. m. s.	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″
6 4 28·3	62 36 00	62 20 50	62 10 40	62 2 30	61 54 00
6 5 5	+ 30	+ 30	+ 30	+ 30	+ 30
6 5 31	62 36 30	62 21 20	62 11 10	62 3 00	61 54 30
6 5 52	31 18 15	31 10 40	31 5 35	31 1 30	30 57 15
6 6 12·5	− 1 35	− 1 36	− 1 36	− 1 37	− 1 37
27 08·8	31 16 40	31 9 4	31 3 59	30 59 53	30 55 38
6 5 26	80 25 13	83 25 13	83 25 13	83 25 13	83 25 13
Chron. S. + 5 16	34 53 1	34 53 1	34 53 1	34 53 1	34 53 1
6 10 42	149 34 54	149 27 18	149 22 13	149 18 07	149 13 52
Long$_t$ Time 2 58 24	74 47 27	74 43 39	74 41 6	74 39 13	74 36 56
T. from Noon 3 12 18	43 30 47	43 34 35	43 37 7	43 39 10	43 41 18
H. Diff. 70·7	0 00287	0·00287	0·00287	0·00287	0·00287
3	0·08602	0·08602	0·08602	0·08602	0·08602
12 | ⅓ | 230·1	9·41887	9·42033	9·42181	9·42276	9·42373
15·3	9·83702	9·83842	9·83876	9·83903	9·83931
245·4	9·34508	9·34794	9·34946	9·35068	9·35193
+ 4 05·4					
6 30 41·2					
♀ Decl. 6 34 46.6	h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.
	3 44 41·5	3 45 19·9	3 45 45·5	3 46 6·3	3 46 27·7
	1 3 18·31	1 3 18·31	1 3 18·31	1 3 18·31	1 3 18·31
	1 9 11·17	1 9 11·17	1 9 11·17	1 9 11·17	1 9 11·17
H. Diff. 10″·97	5 57 10·98	5 57 49·38	5 58 14·98	5 58 35·78	5 58 57·18
3	+ 12 29·55	+ 12 29·55	+ 12 29·55	+ 12 29·55	+ 12 29·55
12 | ⅓ | 32·91	6 9 40·53	6 10 18·93	6 10 44·53	6 11 5·33	6 11 26·73
21·09	6 4 28·3	6 5 5·	6 5 31·	6 5 52·	6 6 12·5
+ 35 10	5 12·23	5 13·93	5 13·53	5 13·33	5 14·23
1 2 43·21	5 13·03				
♀ Rt. Asc. 1 3 18·31	5 13·53				
	5 13·33				
	5 14·23				
	67·25				

			m. s.
		D. 12859. S. M T. Khan Nahrwan, Feb. 25th.....	5 41·48
		Gain in 123 hrs. at 11 s. daily	−56·37
D. 59. S.M.T.	5 13·45	D. 12859. S. M. T. Khan Nahrwan, March 1st	4 45·11
D. 60. S. 59	2 9	D. 12859. S. M. T. Duz Khurmati, March 1st	5 13·45
D. 60 S. M.T.	7 22·45	Diff. Long. in Time	28·34

			m. s.
H. Diff. 9·335		D. 12860. S. M. T. Khan Nahrwan, March 1st	6 58·73
3		D. 12860. S. M. T. Duz Khurmati, March 1st	7 22·45
12 | ⅓ | 28·005		Diff. Long. in Time	28·72
1·867			
+ 29·872			
22 50 18·96			
⊙ Rt. Asc. 22 50 48·83			
24			
1 9 11·17			

			° ′ ″
H. Diff. ·519		D. 12859 = 28·34 = Diff. Long.	0 7 5 E.
3		D. 12860 = 28·72 = Diff. Long.	0 7 11 E.
12 | ⅓ | 1·557		Means give Duz Khurmati E. Khan Nahrwan.....	7 8 E.
104		Khan Nahrwan E. Baghdad.....	6 E.
− 1·661		Duz Khurmati E. Baghdad	13 8 E.
12 31·21			
Equa. 12 29·55			

Station 6.—(5th Traverse)—March 2nd, 1852.

TAOUK.

*Mer. Alt. * Rigel for Latitude.*

	93° 00′ 10″
Index Error	+ 30
	93 00 40
	46 30 20
Par. Ref.	− 55
	46 29 25
	90
	43 30 35 N.
Decl.	8 22 49 S.
Lat. of Taouk	35 7 46 N.

Altitudes of Venus.

Time by D. 12859	Alt.	Alt.	Alt.	Alt.
h. m. s.	° ′ ″	° ′ ″	° ′ ″	° ′ ″
6 1 46	64 41 30	64 31 45	64 21 25	64 12 50
6 2 10	+ 30	+ 30	+ 30	+ 30
6 2 36	64 42 00	64 32 15	64 21 55	64 13 20
6 2 57 5	32 21 00	32 16 7	32 10 57	32 6 40
8 29·5	− 1 32	− 1 32	− 1 32	− 1 33
6 2 07	32 19 28	32 14 35	32 9 25	32 5 07
Chron. S. M. T. + 4 20	82 54 41	82 54 41	82 54 41	82 54 41
6 6 27	35 7 46	35 7 46	35 7 46	35 7 46
Long. Time 2 57 40	150 21 55	150 17 02	150 11 52	150 7 34
Time from Noon 3 8 47	75 10 57	75 8 31	75 5 56	75 3 47
	42 51 29	42 53 56	42 56 31	42 58 40
H. Diff. 76″·4				
3				
229·2	0·00333	0·00333	0·00333	0·00333
6 | 1/10 7·6	0·08732	0·08732	0·08732	0·08732
3 | 1/20 3·8	9·40780	9·40896	9·41019	9·41121
240·6	9·83263	9·83296	9·83331	9·83360
+ 4 00·6	9·33108	9·33257	9·33415	9·33546
7 1 18·7				
♀ Decl. 7 5 19 N.	h. m. s.	h. m. s.	h. m. s.	h. m. s.
90	3 40 37·5	3 41 2·1	3 41 28·3	3 41 50·1
P. D. 82 54 41	1 7 41·07	1 7 41·07	1 7 41·07	1 7 41·07
	1 5 27·65	1 5 27·65	1 5 27·65	1 5 27·65
H. Diff. 10″·98	5 53 46·22	5 54 10·82	5 54 37·02	5 54 58·82
3	+ 12 17·05	+ 12 17·05	+ 12 17·05	+ 12 17·05
32·94	6 6 3·27	6 6 27·87	6 6 54·07	6 7 15·87
6 | 1/10 1·09	6 1 46·0	6 2 10·	6 2 36.	6 2 57·5
3 | 1/20 5·6	4 17·27	4 17·87	4 18·07	4 18·37
+ 34·58	4 17·87			
♀ Rt. Asc. 1 7 6·49	4 18·07			
1 7 41·07	4 18·37			
	71·58			
	D. 59 S. M. T. 4 17·895			
	D. 60 S 59 2 19·3			
	D. 60 S. M. T. 6 37·195			

D. 12859. S. M. T. Khan Nahrwan, Feb. 25th 5 41·48
Gain in 147 hrs. at 11 s. daily ..... 1 7·34
D. 12859. S. M. T. Khan Nahrwan, Mar. 2nd. 4 34 14
D. 12859. S. M. T. Taouk, Mar. 2nd ..... 4 17·895
Diff. Long. in Time ..... 16·245

H. Diff.	9·315
3	
	27·945
6 | 1/10	931
3 | 1/20	465
	+ 29·341
	22 54 3·1
⊙ Rt. Asc.	22 54 32.35
	24
Comp. ⊙ Centre	1 05 27·65

H. Diff.	·540
3	
	1·620
6 | 1/10	54
3 | 1/20	27
	− 1·701
	12 18·75
Equa.	12 17·05

D. 12860. S. M. T. Khan Nahrwan, Mar. 2nd. 6 53·73
D. 12860. S. M. T. Taouk, Mar. 2nd ..... 6 37·195
Diff. Long. in Time ..... 16·535

	s.	° ′ ″
D. 12859 =	16·245 = Diff. Long	0 4 4 W.
D. 12860 =	16·535 = Diff. Long	0 4 8 W.
Means give Taouk W. Khan Nahrwan		0 4 6 W.
Khan Nahrwan E. Baghdad		0 6 00 E.
Taouk E. Baghdad.....		1 54 E.

STATION 7.—(6TH TRAVERSE).—MARCH 3RD, 1852.

KERKUK.

*Mer. Alt. * Rigel for Latitude.*

		92°	19′	40″
I. Error			+	30
		92	20	10
		46	10	5
Par. Ref.			−	56
		46	9	9
		90		
		43	50	51 N.
Decl.		8	22	49 S.
Lat. of Kerkuk		35	28	02 N.

Altitudes of Venus.

Time by D.	12859 h. m. s.	Alt. ° ′ ″	Alt. ° ′ ″	Alt. ° ′ ″	Alt. ° ′ ″	Alt. ° ′ ″
	5 58 21	66 47 20	66 37 50	66 26 15	66 8 00	65 57 30
	5 58 46	+ 30	+ 30	+ 30	+ 30	+ 30
	5 59 14·5	66 47 50	66 38 20	66 26 45	66 8 30	65 58 00
	6 0 3	33 23 55	33 19 10	33 13 22	33 4 15	32 59 00
	6 0 27·5	− 1 28	− 1 28	− 1 28	− 1 29	− 1 29
	20 56 52·0	33 22 27	33 17 42	33 11 54	33 2 46	32 57 31
	5 59 22	82 24 17	82 24 17	82 24 17	82 24 17	82 24 17
	+ 3 50	35 28 02	35 28 02	35 28 02	35 28 02	35 28 02
	6 03 12	151 14 46	151 10 01	151 04 13	150 55 5	150 49 50
	2 57 40	75 37 23	75 35 00	75 32 6	75 27 32	75 24 55
	8 5 32	42 14 56	42 17 18	42 20 12	42 24 46	42 27 24
H. Diff.	76·6					
	3					
6 | 1/10	228·0	0·00383	0·00383	0·00383	0·00383	0·00383
	7·6	0·08914	0·08914	0·08914	0·08914	0·08914
	235·6	9·30498	9·30615	9·30757	9·30980	9·40108
	+ 3 55·6	9·82760	9·82793	9·82833	9·82896	9·82932
	7 31 47	9·31555	9·31705	9·31887	9·32178	9·32357
♀ Decl.	7 35 42·6 N.					
	90					
P. D.	82 24 17·4	h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.
		3 36 23·5	3 36 47·9	3 37 17·3	3 38 2·9	3 38 30·7
		1 12 04·04	1 12 04·04	1 12 04·04	1 12 04·04	1 12 04·04
		1 1 44·61	1 1 44·61	1 1 44·61	1 1 44·61	1 1 44·61
H. Diff.	10·99	5 50 12·15	5 50 36·55	5 51 05·95	5 51 52·55	5 52 19·35
	3	+ 12 4·05	+ 12 4·05	+ 12 4·05	+ 12 4·05	+ 12 4·05
6 | 1/10	32·97	6 2 10·20	6 2 40·60	6 3 10·00	6 3 56·60	6 4 23·40
	1·10	5 58 21	3 58 46	5 59 14·5	6 0 3	6 0 27·50
	+ 34·07	3 55·20	3 54·60	3 55·5	3 53·60	3 55·90
♀ Rt. Asc.	1 11 29·07	3 54·60				
	1 12 4·04	3 55·5				
		3 55·90				
		2 21·2				
D. 59 S.		3 55·3				
H. Diff.	9·295	D. 60 S. 59	2 30·1			
	3	D. 60 S.	6 25·4			
6 | 1/10	27·885					
	930					
	+ 28·815					
	22 57 46·57					
☉ Rt. Asc.	22 58 15·39					
	24					
Compt. Centre.	1 01 44·61					
H. Diff.	560					
	3					
6 | 1/10	1·680					
	56					
	− 1·736					
	12 5·79					
	12 4·05					

	m. s.
D. 12859 S. M. T. Khan Nahrwan Feb. 25th ..	5 41·48
Gain in 171 hrs. at 11 s. daily	1 18·34
D. 12859 S. M. T. Khan Nahrwan, Mar. 3rd ..	4 23·14
D. 12859 S. M. T. Kerkuk, Mar. 3rd	3 55·3
Diff. Long. in Time	0 27·84

	m. s.
D. 12860 S. M. T. Khan Nahrwan, Mar. 3rd ..	6 53·73
D. 12860 S. M. T. Kerkuk, Mar. 3rd	6 25·4
Diff. Long. in Time.....	28·33

	s.	°	′	″	
D. 12859 = 27·84 = Diff. Long.		0	6	58	W.
D. 12860 = 28·33 = Diff. Long.		0	7	4	W.
Means give Kerkuk W. Khan Nahrwan..			7	01	W.
Khan Nahrwan E. Baghdad			6	00	E.
Kerkuk W. Baghdad.			1	01	W.

Observations made at the Halting Stations on the road from Baghdad to Mosul.

1st Station.—Khan Nahrwan.—February 25th, 1852.

Bearing WSW. 300 yards.

Lat. Khan Nahrwan	33° 53′ 00″ N.
Place of Observation ENE. 300 yds. = Diff. lat. 115 yds. or	3 N.
Lat. of Place of Observation	33 53 03 N.

	No.		m.	s.	
Chronometer. Dent.	12859.	S. M. T. Baghdad, February 23rd	5	39·05	Gaining daily 11.
Chronometer. Dent.	12860.	S. M. T. Baghdad, February 23rd	6	32·09	Going Mean Time.

Sun's Lower Limb P.M.

Times by a Watch.	h. m. s.	Alt.	Alt.	Alt.	Alt.	Alt.	
	3 18 30	54° 5′ 20″	53° 53′ 20″	53° 30′ 40″	53° 33′ 10″	53° 25′ 40″	
	3 19 5·5	+ 30	+ 30	+ 30	+ 30	+ 30	Index Error.
	3 19 46	54 5 50	53 53 50	53 40 10	53 33 40	53 26 10	
	3 20 4·5	27 2 55	26 56 55	26 50 5	26 46 50	26 43 5	
	3 20 26·5	+ 14 24	+ 14 24	+ 14 23	+ 14 23	+ 14 22	Corr. Semdr.
	07 52·5	27 17 19	27 11 19	27 4 28	27 1 13	26 57 27	
	3 19 34	99 16 39	99 16 39	99 16 39	99 16 39	99 16 39	P. D.
W. S. M. T.	+ 6 50	33 53 3	33 53 3	33 53 3	33 53 3	33 53 3	Lat.
	3 26 24	160 27 1	160 21 1	160 14 10	160 10 55	160 7 9	Sum.
Long. T.	2 57 40	80 13 30	80 10 30	80 7 5	80 5 27	80 3 34½	Sum.
	28 44	52 56 11	52 50 11	53 2 37	53 4 14	53 6 7	Diff.
Equa.	— 13 24						
T. from Noon.	15 20						
		0·00572	0·00572	0·00572	0·00572	0·00572	Cosec. P. D.
	H. D.	0·08084	0·08084	0·08084	0·08084	0·08084	Sec. Lat.
	15½ | 55·75	9·23989	9·23208	9·23457	9·23575	9·23711	Cosin ½ Sum.
	13·03	9·00199	9·00227	9·00260	9·00275	9·00293	Sin Diff.
Decl.—	0 16 52·8 s.	9·21844	9·22091	9·22375	9·22506	9·22660	
	0 16 38·9 s.						
P. D.	99 16 38·0						

		h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.	
	H. D.	3 11 57·4	3 12 32·3	3 13 12·1	3 13 31·1	3 13 59	
	15½ | ·404	+ 13 25·3	+ 13 25·3	+ 13 25·3	+ 13 25·3	+ 13 25·3	Equatn.
	— ·101	3 25 22·7	3 25 57·6	3 26 37·4	3 26 56·4	3 27 18·3	
	13 25·41	3 18 30	3 19 5·5	3 19 46	3 20 4·5	3 20 26·5	
Equa.	13 25·31	6 52·7	6 52·1	6 51·4	6 51·9	6 51·8	
		6 52·1					
		6 51·4					
		6 51·9					
		6 51·8					
		5 | 259·9					
W. S. M. T. 25th		6 51·98					
D. 12859 P. Watch		1 10·5					
D. 12859 S. M. T.		5 41·48					
D. 12860 S. 12859		1 12·25					
D. 12860 S. M. T.		6 53·73					

	m. s.
D. 12859 S. M. T. Baghdad, February 23rd	5 39·05
Gain in 54 hrs. at 11 s. daily	— 24·75
D. 12859 S. M. T. Baghdad, February 25th	5 14·30
D. 12859 S. M. T. Khan Nahrwan, February 25th	5 41·48
Diff. of Long. in Time	27·18

	m. s.
D. 12860 S. M. T. Baghdad, February 25th	6 32·9
D. 12860 S. M. T. Khan Nahrwan, February 25th	6 53·73
Diff. of Long. in Time	20·83

	s.		
D. 12859	= 27·18 = Diff. Long	6° 48′	E.
D. 12860	= 20·83 = Diff. Long	5 12	E.
Means give Khan Nahrwan E. Baghdad		6 00	E.

2ND STATION.—(1ST TRAVERSE)—FEBRUARY 26TH, 1852.

DELLI ABBAS.

Place of Observation 150 yards E. of the Bridge over the Khalis.

*Mer. Alt. * Rigel for Latitude.*

	95°	7′	20″
Index Error		+	30
	95	7	50
	47	33	55
Corr.		−	53
	47	33	02
	90		
	42	24	58 N.
Decl.	8	22	49 S.
Lat. of Delli Abbas	34	4	9 N.

Altitudes of Venus.

	Alt.	Alt.	Alt.	Alt.	Alt.
Time by D. 12859	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″
h. m. s.	63 4 00	62 46 20	62 31 50	62 17 40	61 44 00
5 54 38·5	+ 30	+ 30	+ 30	+ 30	+ 30
5 55 22·5	63 4 30	62 46 50	62 32 20	62 18 10	61 44 30
5 55 58·5	31 32 15	31 23 25	31 16 10	31 9 5	30 52 15
5 56 35	− 1 34	− 1 35	− 1 35	− 1 36	− 1 37
5 58 0·5	31 30 41	31 21 00	31 14 35	31 7 29	30 50 38
280 35·0	85 29 09	85 29 9	85 29 9	85 29 9	85 29 9
5 56 8	34 04 9	34 4 9	34 4 9	34 4 9	34 4 9
Chron. S. + 6 50	151 3 59	150 55 8	150 47 53	150 40 47	150 23 56
6 02 58	75 31 59	75 27 34	75 23 56	75 20 23	75 11 58
Long. Time 2 59 20	44 01 18	44 5 44	44 0 21	44 12 54	44 21 20
T. from Noon 3 03 38					
H. D. 77″·9					
3					
233·7					
3 | 1/25 3·9	0·00135	0·00135	0·00135	0·00135	0·00135
1/2 | 1/130 6	0·08178	0·08178	0·08178	0·08178	0·08178
238·2	9·39761	9·39977	9·40157	9·40327	9·40732
+ 3 58·2	9·84149	9·84252	9·84299	9·84345	9·84455
4 26 53	9·32248	9·32542	9·32769	9·32985	9·33500
♀ Decl. 4 30 51 N.					
90					
P. D. 85 29 09	h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.
	3 38 19·3	3 39 4·1	3 39 41·5	3 40 17·5	3 41 42·5
H. D. 10″·95	45 44·84	45 44·84	45 44·84	45 44·84	45 44·84
3	1 24 13·8	1 24 13·8	1 24 13·8	1 24 13·8	1 24 13·8
32·85	5 48 17·94	5 49 2·74	5 49 40·14	5 50 16·14	5 51 41·14
3 | 1/25 54	+ 13 14·42	+ 13 14·42	+ 13 14·42	+ 13 14·42	+ 13 14·42
1/2 | 1/130 9	6 01 32·36	6 2 17·16	6 2 54·56	6 3 30·56	6 4 55·56
+ 33·48	5 54 38·5	5 55 22·5	5 55 58·5	5 56 35·	5 58 0·5
45 11·36	6 53·86	6 54·06	6 56·06	6 55·56	6 55·06
♀ Rt. Ascn. 45 44·84	6 54·06				
	6 56·06				
	6 55·56				
H. D. 9″·427	6 55·06				
3	276·40				
28·281	D. 59 S. M. T. 6 55·28				
3 | 1/25 471	D. 60 S. D. 59 1 25·				
1/2 | 1/130 79	D. 60 S. M. T. 8 20·28				
+ 28·831					
⊙ Rt. Asc. 22 35 17·37					
22 35 46·20					
24					
Comp. Cent. 1 24 13·80					
H. D. ·429					
3					
1·287					
3 | 1/25 21					
1 | 1/125 3					
− 1·301					
13 15·72					
Equa. 13 14·42					

	m.	s.
D. 12859 S. M. T. Khan Nahrwan, Feb. 25th.	5	41·48
Gain in 20½ hrs. at 11 s. daily	−	12·15
D. 12859 S. M. T. Khan Nahrwan, Feb. 26th.	5	29·33
D. 12859 S. M. T. Delli Abbas, Feb. 26th	6	55·28
Diff. of Long. in Time	1	25·95

	m.	s.
D·12860 S.M.T. Khan Nahrwan, Feb. 26th	6	53·73
D.12860 S.M.T. Delli Abbas, Feb. 26th	8	20·28
Diff. Long. in Time	1	26·55

	m.	s.	°	′	″
D. 12859 = 1	25·95 = Diff. Long.		0	21	29 E.
M. 12860 = 1	26·55 = Diff. Long.		0	21	37 E.
Means give Delli Abbas E. Khan Nahrwan			0	21	33 E.
Khan Nahrwan E. Baghdad			0	6	00 E.
Delli Abbas E. Baghdad			0	27	33

3rd Station.—(2nd Traverse)—Feb. 28th, 1852.

KARA TEPPEH.

Place of Observation—

Mer. Alt. Sun's Lower Limb for Lat.

H. D. 56″·39
3
6,0 | 16 9 17
+ 2 49·2
Decl. 8 9 35·5 S.
Corr. Decl. 8 12 24·7 S.

	94°	14′	30″
Index Error		+	30
	94	15	00
	47	7	30
Corr. Semdr.	+	15	22
	47	22	52
	90		
	42	37	8 N.
Decl.	8	12	25 S.
Lat. of Kara Teppeh	34	24	43 N.

Altitudes of Sun's Lower Limb.

Time by D. 12859	h. m. s.	Alt.	Alt.	Alt.	Alt.	Alt.
	8 54 13·5	° ′ ″ 55 00 00	° ′ ″ 55 9 00	° ′ ″ 55 16 15	° ′ ″ 55 20 35	° ′ ″ 55 35 40
	8 54 40·3	+ 30	+ 30	+ 30	+ 30	+ 30
	8 55 1·5	55 00 30	55 9 30	55 16 45	55 27 5	55 36 10
	8 55 32	27 30 15	27 34 45	27 38 22	27 43 32	27 48 5
	8 55 58·5	+ 14 26	+ 14 26	+ 14 27	+ 14 27	+ 14 28
	2 75 25·8	27 44 41	27 49 11	27 52 49	27 57 59	28 2 33
	8 55·05	98 15 24	98 15 24	98 15 24	98 15 24	98 15 24
Chron. S.	+ 6 50	34 24 43	34 24 43	34 24 43	34 24 43	34 24 43
	9 1 55	160 24 48	160 29 18	160 32 56	160 38 06	160 42 40
Equa.	— 12 57	80 12 24	80 14 39	80 16 28	80 19 03	80 81 20
	8 48 58	52 27 43	52 25 28	52 23 39	52 21 04	52 18 47
Long. Time	2 59 40					
	5 49 18					
	12					
T. from Noon.	6 10 42	0·00453	0·00453	0·00453	0·00453	0·00453
		0·08355	0·08355	0·08355	0 08355	0·08355
		9·23069	9·22904	9·22770	9·22580	9·22410
		9·89925	9·89903	9·89885	9·89860	9·89838
		9·21802	9.21615	9·21463	9·21218	9·21056

H. Diff. 56″·39
6
33·834
10 | 8 939
1 | 60 94
6,0 | 34·867
+ 5 48·67
8 9 35·5
Decl. 8 15 24·57 S.
90
P. D. 98 15 24

h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.
3 11 51·4	3 11 25·1	3 11 3·9	3 10 33·7	3 10 6.9
8 48 8·6	8 48 34·9	8 48 56·1	8 49 6·3	8 49 53·1
+ 12 57·37	+ 12 57·37	+ 12 57·37	+ 12 57·37	+ 12 57·37
9 1 5·97	9 1 32·27	9 1 53·47	9 2 23·67	9 2 50·47
8 54 13·5	8 54 40·3	8 55 1·5	8 55 32	8 55 58·5
6 52·47	6 51·97	6 51·97	6 51·67	6 51·97
6 51·97				
6 51·97				
6 51·67				
6 51·97				
260·05				
6 52·01				
1 45				
8 37·01				

H. D. ·453
6
2·718
10 | 8 57
1 | 60 7
+ 2·800
12 54·57
Equa: 12 57·37

D. 59. S.
D. 60. S. 59
D. 60. S. M. T. 8 37·01

	m. s.
D. 12859. S. M. T. Khan Nahrwan, Feb. 25th ...	5 41·48
Gain in 66 hrs. at 11 s. daily	− 30·25
D. 12859. S. M. T. Khan Nahrwan, Feb. 28th ...	5 11·23
D. 12859. S. M. T. Kara Teppeh, Feb. 28th.....	6 52·01
Diff. Long. in Time	1 40·78

	m. s.
D. 12860. S. M. T. Khan Nahrwan, Feb. 28th....	6 53·73
D. 12860. S. M. T. Khan Teppeh, Feb. 28th	8 37·01
Diff. Long. in Time	1 43·28

	m. s.		°	′	″
D. 12859 =	1 40·78	= Diff. Long.	0	25	12 E.
D. 12860 =	1 43·28	= Diff. Long.	0	25	49 E.
Means give Kara Teppeh E. Khan Nahrwan.				25	30 E.

At the same Station as Yesterday.—Feb. 29th, 1852.

KARA TEPPEH.

Altitudes of the Sun's Lower Limb.

		Alt.	Alt.	Alt.	Alt.	Alt.
Time by D. 12859	h. m. s.	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″
	8 27 49	46 11 50	46 22 50	46 34 30	46 42 25	46 50 45
	8 28 20	+ 30	+ 30	+ 30	+ 30	+ 30
	8 28 52	46 12 20	46 23 20	46 35 00	46 42 55	46 51 15
	8 29 14	23 0 10	23 11 40	23 17 30	23 21 27	23 25 37
	8 29 37·5	+ 14 2	+ 14 2	+ 14 3	+ 14 3	+ 14 3
	143 52·5	23 20 12	23 25 42	23 31 33	23 35 30	23 39 40
	8 28 46	97 53 10	97 53 10	97 53 10	97 53 10	97 53 10
Chron. S.	+ 6 40	34 24 43	34 24 43	34 24 43	34 24 43	34 24 43
	8 35 26	155 38 5	155 43 35	155 49 26	155 53 23	155 57 33
Equa.	— 12 46	77 49 2	77 51 47	77 54 43	77 56 41	77 58 46
	8 22 40	54 28 50	54 26 5	54 23 10	54 21 11	54 19 6
Long. Time	2 59 40					
	5 23 00					
	12					
T. from Noon	6 37 00	0·00413	0·00413	0·00413	0·00413	0·00413
		0·08355	0·08355	0·08355	0·08355	0·08355
		9·32435	9·32273	9·32101	9·31985	9·31861
		9·91058	9·91033	9·91007	9·90989	9·90970
		9·32261	9·32074	9·31876	9·31742	9·31599

H. Diff. 56·68

		6				
		340 08	h. m. s.	h. m. s.	h. m. s.	h. m. s.
30	½	28 34	3 38 18·1	3 37 47·7	3 37 15·5	3 36 39·7
6	1/10	5 67	8 21 41·9	8 22 12·3	8 22 44·5	8 23 06·1
1	1/60	96	+ 12 46·3	+ 12 46·3	+ 12 46·3	+ 12 46·3
	6,0	37,5·05	8 34 28·2	8 34 58·6	8 35 30·8	8 35 52·4
		+ 6 15·1	8 27 49	8 28 20	8 28 52	8 29 14
		7 46 55·2	6 39·2	6 38·6	6 38·8	6 38·4
Decl.	7 53 10 S.		6 38·6			
	90		6 38·8			
P. D.	97 53 10		6 38·4			
			6 38·1			
			5) 193·1			
			6 38·62			

D. 59. S. T. 6 38·62
D. 60. S. 59 1 55
D. 60. S. M. T. 8 33·62

D. 12859. S. M. T. Khan Nahrwan, Feb. 25th .. 5 41·48
Gain in 89½ hrs. at 11 s. daily ..... — 41·02
D. 12859. S. M. T. Khan Nahrwan, Feb. 29th .. 5 00·46
D. 12859. S. M. T. Kara Teppeh, Feb. 29th .... 6 38·62
Diff. Long. in Time..... 1 38·16

	·475	
	6	
	2·850	
30 ½	237	
6 1/10	48	
1 1/60	8	
	+ 3·143	
	12 43·16	
Equa.	12 46·30	

D. 12860. S. M. T. Khan Nahrwan, Feb. 29th .. 6 59·73
D. 12860. S. M. T. Kara Teppeh, Feb. 29th .... 8 33·62
Diff. Long. in Time..... 1 39·89

	m. s.	°	′	″	
D. 12859 = 1	38·16 = Diff. Long.....	0	24	33	E.
D. 12860 = 1	39·89 = Diff. Long.....	0	24	58	E.
Means give Kara Teppeh E. Khan Nahrwan.....			25	45	E.
Means by Yesterday's Observations.....			25	30	E.
Kara Teppeh E. Khan Nahrwan			25	7	E.
Khan Nahrwan E. Baghdad			6	0	E.
Kara Teppeh E. Baghdad			31	7	E.

Station 8th.—(7th Traverse)—March 5th.

ALTUN KIUPRI.

100 yards NW. of the Khan. On a Mound.

Mer. Alt. Sun's Lower Limb for Latitude.

2 h. 56 m. Long. Time.

H. D.		57″90
		2
		115·80
30	½	28·95
20	⅓	19·30
6	1/10	5·79
		169·84
		+ 2 49·8
		5 52 2·2
Decl.		5 54 52·0 S.

	° ′ ″
	96 8 20
Index Error	+ 30
	96 8 50
	48 4 25
Corr. Semdr.	+ 15 22
	48 19 47
	90
	41 40 13 N.
Decl.	5 54 52 S.
Lat. of Altun Kiupri	35 45 21 N.

Altitudes of Venus.—March 4th, 1852.

Time by D. 12859	h. m. s.	Alt.	Alt.	Alt.	Alt.	Alt.
H. D.	5 55 39	° ′ ″ 68 50 45	° ′ ″ 68 45 10	° ′ ″ 68 6 50	° ′ ″ 67 43 20	° ′ ″ 66 51 50
	5 56 9	+ 30	+ 30	+ 30	+ 30	+ 30
	5 57 48	68 57 15	68 45 40	68 7 20	67 43 50	66 52 20
	5 58 49·5	34 28 37	34 22 50	34 3 40	33 51 55	33 26 10
	6 1 1	− 1 25	− 1 25	− 1 26	− 1 26	− 1 28
	29 49 26	34 27 12	34 21 25	34 2 14	33 50 29	33 24 42
	5 57 53	81 54 3	81 54 3	81 54 3	81 54 3	81 54 3
Chron. S.	2 40	33 45 21	33 45 21	33 45 21	33 45 21	33 45 21
	6 00 33	152 6 36	152 00 49	151 41 38	151 29 53	151 4 6
Long. Time	2 56 20	76 3 18	76 00 24	75 50 49	75 44 56	75 32 3
T. from Noon	3 04 13	41 36 6	41 38 59	41 48 35	41 54 27	42 7 21
H. Diff.	75″·6					
	3	0·00435	0·00435	0·00435	0·00435	0·00435
	226·8	0·09070	0·09070	0·09070	0·09070	0·09070
4 | 1/15	50	9·38200	9·38346	9·38330	9·30124	9·39760
	231·8	9·82213	9·82254	9·82390	9·82473	9·82654
	+ 3 51·8	9·29918	9·30105	9·30725	9·31102	9·31919
	8 2 5·3 N.					
♀ Decl.	8 5 57					
	90					
P. D.	81 54 03					

	h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.
	3 32 2	3 32 31·5	3 34 10·1	3 35 10·5	3 37 22·5
	1 16 27·41	1 16 27·41	1 16 27·41	1 16 27·41	1 16 27·41
	58 1·89	58 1·89	58 1·89	58 1·89	58 1·89
	5 46 31·30	5 47 00·80	5 48 39·40	5 49 39·80	5 51 51·80
	+ 11 50·59	+ 11 50·59	+ 11 50·59	+ 11 50·59	+ 11 50·59
	5 58 21·89	5 58 51·39	6 00 29·99	6 1 30·39	6 3 42·39
	5 55 39	5 56 9	5 57 48	5 58 49·5	6 1 1
	2 42·89	2 42·30	2 41·99	2 40·89	2 41·39
	2 42·39				
	2 41·99				
	2 40·89				
	2 41·39				
	2 09·55				

H. D.	11·00
	3
	33·00
4 | 1/15	·73
	+ 33·73
	1 15 53·68
♀ Rt. Asc.	1 16 27·41

H. D.	9·276
	3
	27·828
4 | 1/15	618
	+ 28·446
	23 1 20·66
⊙ Rt. Asc.	23 1 58·11
	24
	58 01·89

H. D.	·578
	3
	1·734
4 | 1/15	38
	− 1·772
	11 59·96
Equa.	11 59·59

D. 50. S. M. T.	2 41·91
D. 60. S. 59	2 41
D. 60. S. M. T.	5 22·91

	m. s.
D. 12859. S. M. T. Khan Nahrwan, Feb. 25th. ..	5 41·48
Gain in 195 hrs. at 11 s. daily	1 29·37
D. 12859. S. M. T. Khan Nahrwan, Mar. 4th	4 12·11
D. 12859. S. M. T. Altun Kiupri, Mar. 4th	2 41·91
Diff. Long. in Time.....	1 30·2

	m. s.
D. 12860. S. M. T. Khan Nahrwan, Mar. 4th....	6 53·73
D. 12860. S. M. T. Altun Kiupri, Mar. 4th	5 22·91
Diff. Long. in Time	1 30·82

	m. s.		° ′ ″
D. 12859. =	1 30· 2	: Diff. Long.	0 22 33 W.
D. 12860. :	1 30·82	: Diff. Long.	0 22 42 W.
Means give Altun Kiupri, W. Khan Nahrwan.			22 37 W.
Khan Nahrwan E. Baghdad			6.00 E.
Altun Kiupri W. Baghdad			16 37

STATION 9TH (8TH TRAVERSE).—MARCH 6TH.

ARBIL.

The place of Observation immediately at the NW. edge of the base of the Mound forming the Citadel.

Mer. Alt. Sirius for Lat.*

Index Error	74° 37′	+ 30″	
	74 38	00	
	37 19	00	
Ref. Par.	− 1	16	
	37 17	44	
	90		
	52 42	16	N.
Decl.	16 30	76	S.
Lat. of Arbil	36 11	00	N.

Altitudes of Venus.

Time by D. 12859	Alt.	Alt.	Alt.	Alt.
h. m. s.	° ′ ″	° ′ ″	° ′ ″	° ′ ″
5 58 2·5	68 40 30	68 19 20	68 5 00	67 51 20
5 58 58·5	+ 30	+ 30	+ 30	+ 30
5 59 33	68 41 00	68 19 50	68 5 30	67 51 50
6 0 9	34 20 30	34 9 55	34 2 45	33 55 55
23 56 43	− 1 25	− 1 26	− 1 26	− 1 26
5 59 11	34 19 05	34 8 29	34 1 19	33 54 29
Chron. S. M. T. + 4 10	80 53 58	80 53 58	80 53 58	80 53 58
6 3 21	36 11 00	36 11 00	36 11 00	36 11 00
Long. Time 2 56 10	151 24 03	151 13 27	151 6 17	150 59 27
T. from Noon 3 7 11	75 42 1	75 36 43	75 33 8	75 29 43
	41 22 56	41 28 14	41 31 49	41 35 14
H. D. 74″·6				
3				
223·8				
6 | 1/10 7·5	0·00550	0·00550	0·00550	0·00550
1 | 1/60 1·2	0·09306	0·09306	0·09306	0·09306
23·25	9·30269	9·30531	9·30707	9·30874
+ 3 52·5	9·82025	9·82101	9·82152	9·82201
9 2 9·2	9·31150	9·31488	9·31715	9·31931
♀ Decl. 9 6 01·7 N.				
90				
P. D. 80 53 58·3	h. m. s.	h. m. s.	h. m. s.	h. m. s.
	3 35 18·3	3 36 12·8	3 36 49·5	3 37 24·3
	1 25 16·24	1 25 16·24	1 25 16.24	1 25 16·24
	50 36·70	50 36·70	50 36·70	50 36·20
	5 51 11·24	5 52 5·74	5 52 42·44	5 53 17·24
	+ 11 22·26	+ 11 22·26	+ 11 22·26	+ 11 22·26
	6 02 33·50	6 03 28·00	6 04 04·70	6 4 39·50
	5 58 2·5	5 58 58·5	5 59 33	6 0 9
	4 31·00	4 29·50	4 31·70	4 30·50
	4 29·50			
	4 31·70			
	4 30·50			
	122·70			
D. 59 S. M. T.	4 30·675			
D. 60 S. 50	22·5			
D. 60 S. M. T.	4 53·175			

D. 12859. Ran down yesterday.

H. D.	11″·02		
	3		
	33·06		
6 | 1/10	11·0		
1 | 1/60	1·8		
	+ 34·34		
	1 24 41·90		
♀ Rt. Asc.	1 25 16·24		
H. D.	9″·942		
	3		
	27·726		
6 | 1/10	924		
1 | 1/60	154		
	28 804		
	23 8 54 50		
⊙ Rt. Asc.	23 9 23·30		
	24		
Comp. ⊙ Cent.	0 50 36·70		
H. D.	613		
	3		
	1839		
6 | 1/10	61		
1 | 1/60	10		
	− 1·910		
	11 24·17		
Equa.	11 22·26		

D. 12860 S. M. T. Khan Nahrwan, Mar. 6th ..... m. s. 6 53·73
D. 12860 S. M. T. Arbil, Mar. 6th ..... 4 53·175
Diff. Long. in Time..... 2 00·555

	m. s.		
Arbil W. Khan Nahrwan,	2 00·555	=	° ′ ″ 30 11 W.
Khan Nahrwan E. Baghdad	.....		6 00 E.
Arbil W. Baghdad	.....		24 11 W.

72 b

Station 10th (9th Traverse).—March 7th.

KELLAK.

On the Upper Zab, at the North end of the Village.

*Mer. Alt. * Sirius for Latitude.*

	74°	27′	45″
Index Error		+	30
	74	28	15
	37	14	7
Ref. Par.	−	1	16
	37	12	51
	90		
	52	47	00 N.
Decl.	16	31	16 S.
Lat. of Kellak	36	15	53 N.

Altitudes of Venus.

Time by D. 12859.	h. m. s.	Alt. ° ′ ″	Alt. ° ′ ″	Alt. ° ′ ″	Alt. ° ′ ″	Alt. ° ′ ″
	5 55 46·5	70 55 30	70 36 25	70 26 30	70 18 00	70 8 30
	5 56 36	+ 30	+ 30	+ 30	+ 30	+ 30
	5 57 1·5	70 56 00	70 36 55	70 27 00	70 18 30	70 9 00
	5 57 23·5	35 28 00	35 18 27	35 13 30	35 9 15	35 4 30
	5 57 49	− 1 22	− 1 22	− 1 22	− 1 23	− 1 23
	284 36·5	35 26 38	35 17 05	35 12 08	35 7 52	35 3 07
	5 56 55	80 24 17	80 24 17	80 24 17	80 24 17	80 24 17
Chron. S.	+ 3	36 15 53	36 15 53	36 15 53	36 15 53	36 15 53
	5 59 55	152 6 48	151 57 15	151 52 18	151 48 02	151 43 17
Long. Time	2 54 20	76 3 24	75 58 37	75 56 09	75 54 01	75 51 38
T. from Noon	3 05 35	40 36 46	40 41 32	40 44 01	40 46 09	40 48 31
H. Diff.	74″·1					
	3	0·00612	0·00612	0·00612	0·00612	0·00612
	222·3	0·09351	0·09351	0·09351	0·09351	0·09351
6 | 1/10	7·4	9·38195	9·38438	9·38562	9·38670	9·38789
	229·7	9·81354	9·81425	9·81461	9·81492	9·81527
	+ 3 49·7	9·29512	9·29626	9·29986	9·30125	9·30279
	9 31 53·5 N.					
♀ Decl.	9 35 43·2	h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.
	90	3 30 58·1	3 31 47·5	3 32 12·7	3 32 34·7	3 32 59·1
P. D.	80 24 17	1 29 40·71	1 29 40·71	1 29 40·71	1 29 40·71	1 29 40·71
		46 55·1	46 55·1	46 55·1	46 55·1	46 55·1
H. Diff.	11″·04	5 47 33·91	5 48 23·31	5 48 48·51	5 49 10·51	5 49 34·91
	3	+ 11 7·51	+ 11 7·51	+ 11 7·51	+ 11 7·51	+ 11 7·51
6 | 1/10	33·12	5 58 41·42	5 59 30·82	5 59 56·02	6 00 18·02	6 0 42·42
	1·10	5 55 46·5	5 56 36	5 57 1·5	5 57 23·5	5 57 49
	+ 34·22	2 54·92	2 54·82	2 54·52	2 54·52	2 53·42
	1 29 6·49	2 54·82				
♀ Rt. Asc.	1 29 40·71	2 54·52				
		2 54·52				
		2 53·42				
		272·20				

				m. s.
H. Diff.	9″·226	D. 58. S. M. T.	2 54·44	D. 12860. S. M. T. Khan Nahrwán, Mar. 7th.... 6 53·73
	3	D. 60. S. 59	29·6	D. 12860. S. M. T. Kellak, Mar. 7th..... 3 24·04
6 | 1/10	27·678	D. 60. S. M. T.	3 24·04	Diff. Long. in Time ..... 3 29·69
	923			
	28·601			
	23 12 36·30			
	23 13 04·90			
⊙ Rt. Asc.	24			
Comp. Cent.	0 46 55·1			

H. Diff.	·029		m. s.	° ′ ″
	3	Kellak, W. Khan Nahrwan	3 29·69	= 0 52 23 W.
6 | 1/10	1·887	Khan Nahrwan E. Baghdad.....		6 00 E.
	63	Kellak, W. Baghdad		0 46 23 W.
	1·950			
	11 9·46			
Equa.	11 7·51			

Sights at Mr. Rassam's House (British Consul).

MOSUL.

To find the Lat. and Long. of the Minaret of Mosul, bearing 299° 300 yds.

MARCH 11TH, 1852.

Mer. Alt. Sun's Lower Limb for Latitude.

	h. m.
Long. in Time	2 52·30
	58″·85
	2
	117·70
30 | ½	29·42
20 | ⅓	19·62
2 | 1/30	1·96
	168·70
	+ 2 48·7
	3 31 38·6
Decl.	3 34 27·3

	° ′ ″
	99 39 25
I. Error	+ 30
	99 39 55
	49 49 57
Corr. Semdr.	+ 15 24
	50 05 21
	90
	39 54 39 N.
Decl.	3 34 27 S.
Lat. House	36 20 12 N.
N. 61° W. 300 yds.= Diff. Lat. 146 yds. or	+ 4
Lat. Mosul Minaret	36 20 16 N.

Altitudes of the Sun's Lower Limb.—March 10th.

Time by D. 12859.	h. m. s.	Alt.	Alt.	Alt.	Alt.	Alt.
	8 34 33·5	° ′ ″ 50 44 30	° ′ ″ 50 52 20	° ′ ″ 50 59 40	° ′ ″ 51 8 50	D ′ ″ 51 18 00
	8 34 55·5	+ 30	+ 30	+ 30	+ 30	+ 30
	8 35 15·5	50 45 00	50 52 50	51 00 10	51 9 20	51 18 30
	8 35 41	25 22 30	25 26 25	25 30 5	25 34 40	25 39 15
	8 36 6·5	+ 14 13	+ 14 13	+ 14 13	+ 14 13	+ 14 13
	8 176 32·	25 36 43	25 40 38	25 44 18	25 48 53	25 53 28
	8 35 18	94 1 31	94 1 31	94 1 31	94 1 31	94 1 31
Chron. S.	+ 25	36 20 12	36 20 12	36 20 12	36 20 12	36 20 12
	8 35 43	155 58 26	156 02 21	156 06 01	156 10 36	156 15 11
Equa.	− 10 27	77 59 13	78 1 10	78 3 00	78 5 18	78 7 35
	8 25 16	52 22 30	52 20 32	52 18 42	52 16 25	52 14 07
Long. Time.	2 53					
	5 32 16					
	12					
T. from Noon	6 27 44	0·00107	0·00107	0·00107	0·00107	0·00107
		0·09391	0·09391	0·09391	0·09391	0·09391
		9·31834	9·31719	9·31609	9·31472	9·31335
		9·89874	9·89855	9·89837	9·89815	9·89792
		9·31206	9·31072	9·30944	9·30785	9·30625

H. Diff.	58″·73
	6
	352·38
20 | ⅛	19·57
4 | 1/13	3·91
4 | 1/13	3·91
	379·77
	+ 6 19·77
	3 55 11
Decl.	4 01 30·77 S.
	90
P. D.	94 01 31

	h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.
	8 35 27·1	8 35 5·7	8 34 45·1	8 34 19·7	8 33 54·1
	8 24 32·9	8 24 54·3	8 25 14·9	8 25 40·3	8 26 5·9
	+ 10 27·4	+ 10 27·4	+ 10 27·4	+ 10 27·4	+ 10 27·4
	8 35 00·3	8 35 21·7	8 35 42·3	8 36 7·7	8 36 33·3
	8 34 33·5	8 34 55·5	8 35 15·5	8 35 41	8 36 6·5
	26·8	26·2	26·8	26·7	26·8
	26·2				
	26·8				
	26·7				
	26·8				
	·33				
D. 59 S. M. T.	26·66				
D. 60 S. 59	57				
D. 60 S. M. T.	1 23·66				

H. Diff.	·657
	6
	3·942
20 | ⅛	219
4 | 1/13	44
4 | 1/13	44
	+ 4·249
	10 23·15
Equa.	10 27·399

D. 12860. S. M. T. Khan Nahrwan, Mar. 10th .. m. 6 s. 58·73
D. 12860. S. M. T. Mosul (House) Mar. 10th .... 1 23·66
Diff. Long. in Time ..... 5 30·07

	m. s.	° ′ ″
Mosul (House), W. Khan Nahrwan	5 30·07 =	1 22 31 W.
Minaret, N. 61° W. 300 yds.=Diff. Long....		9 W.
Mosul Minaret W. Khan Nahrwan.....		1 22 40 W.
Khan Nahrwan E. Baghdad		6 00 E.
Mosul Minaret W. Baghdad		1 16 40 W.

Sights at the Camp of Koiyunjik Village or Aramushiyeh.

RUINS OF NINEVEH.

Mer. Alt. Sun's Lower Limb for Latitude.

MARCH 14TH, 1852.			MARCH 15TH, 1852.
	h. m. s.		
Long in Time.....	2 52 30		
H. Diff. 59·13			H. Diff. 59·19
2			2
118·26			118·38
30 | ½ 29·56			30 | ½ 29·59
20 | ⅓ 19·71			20 | ⅓ 19·73
2 | 1/30 1·97			1/30 1·97
169·50			169·67
+ 2 49·5			2 49·7
Decl. 2 20 47·4 S.			Decl. 1 57 7·0 S.
Corr. Decl. 2 23 36·9 S.			Corr. Decl. 1 59 56·7 S.
	° ′ ″	° ′ ″	
	101 59 50	102 47 10	
	50 59 55	51 23 35	
Par. Ref.	42	— 41	
	50 59 13	51 22 54	
Semdr.	+ 16 6	+ 16 6	
	51 15 19	51 39 00	
	90	90	
	38 44 41 N.	38 21 00 N.	
Decl.	2 23 37 S.	1 59 57 S.	
Lat. of Koiyunjik	36 21 04 N.	= 36 21 03 N.	

Altitudes of the Sun's Lower Limb.

MARCH 13TH, 1852.

Time by D. 12859	h. m. s.	Alt.	Alt.	Alt.	Alt.	Alt.
	8 39 40	° ′ ″ 54 21 00	° ′ ″ 54 29 20	° ′ ″ 54 36 50	° ′ ″ 54 45 10	° ′ ″ 54 54 00
	8 40 3·5	+ 30	+ 30	+ 30	+ 30	+ 30
	8 40 24·5	54 21 30	54 29 50	54 37 20	54 45 40	54 54 30
	8 40 48	27 10 45	27 14 55	27 18 40	27 22 50	27 27 15
	8 41 12	+ 14 21	+ 14 21	+ 14 22	+ 14 22	+ 14 22
	202 8	27 25 06	27 29 16	27 33 02	27 37 12	27 41 37
	8 40 25·6	92 50 42	92 50 42	92 50 42	92 50 42	92 50 42
Equa.	— 9 38·4	36 21 4	36 21 4	36 21 4	36 21 4	36 21 4
	8 30 47	156 36 52	156 41 2	156 44 48	156 48 58	156 53 23
Long. T.	2 52 30	78 18 26	78 20 31	78 22 24	78 24 29	78 26 41
	5 38 17	50 53 20	50 51 15	50 49 22	50 47 17	50 45 04
	12					
T. from Noon	6 21 43					
		0·00054	0·00054	0·00054	0·00054	0·00054
		0·09399	0·09399	0·09399	0·09399	0·09399
H. D. 59·05		9·30678	9·30550	9·30435	9·30307	9·30171
6		9·88962	9·88961	9·88941	9·88920	9·88897
354·30		9·29113	9·28964	9·28829	9·28680	9·28521
20 | ⅓ 19·68						
2 | 1/30 1·97						
37 5·95		h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.
+ 6 15·9		3 29 55·6	3 29 32·3	3 29 11·3	3 28 48·2	3 28 23·6
2 44 20·5		8 30 04·4	8 30 27·7	8 30 48·7	8 31 11·8	8 31 36·4
Decl. 2 50 42		+ 9 38·5	+ 9 38·5	+ 9 38·5	+ 9 38·5	+ 9 38·5
90		8 39 42·9	8 40 06·2	8 40 27·2	8 40 50·3	8 41 14·9
P. D. 92 50 42		8 39 40	8 40 3·5	8 40 24·5	8 40 48	8 41 12
		2·0	2·7	2·7	2·3	2·9
		2·7				
H. Diff. ·693		2·7				
6		2·3				
4·158		2·9				
20 | ⅓ 231		·35				
2 | 1/30 23		2·7				
+ 4·452						
9 34·03						
Equa. 9 38·48						

D. 59 S. M. T. 2·7 D. 12860 S. M. T. Khan Nahrwan, Mar. 13th .. 6 58·73
D. 60 S. 59 1 30 D. 12860 S. M. T. Koiyunjik, Mar. 13th..... 1 32·7
D. 60 S. M. T. 1 32·7 Diff. of Long. in Time ..... 5 21·03

	° ′ ″
D. 12860 = Koiyunjik W. Khan Nahrwan	1 20 15 W.
Khan Nahrwan E. Baghdad	6 00 E.
Koiyunjik W. Baghdad	1 14 15 W.

Sights for Rates, at the same spot.

KOIYUNJIK.

APRIL 13TH, 1852.

Altitudes of the Sun's Lower Limb.

	Alt.	Alt.	Alt.	Alt.	Alt.
	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″
	76 46 20	76 55 40	77 4 30	77 12 30	77 21 50
	+ 30	+ 30	+ 30	+ 30	+ 30
	76 46 50	76 56 10	77 5 00	77 13 00	77 22 20
	38 23 25	38 28 5	38 32 30	38 36 30	38 41 10
	+ 14 51	+ 14 51	+ 14 52	+ 14 52	+ 14 52
	38 38 16	38 42 56	38 47 22	38 51 22	38 56 02
	80 53 6	80 53 6	80 53 6	80 53 6	80 53 6
	36 21 4	36 21 4	36 21 4	36 21 4	36 21 4
	155 52 26	155 57 06	156 1 32	156 5 32	156 10 12
	77 56 13	77 58 32	78 00 46	78 2 46	78 5 6
	39 17 57	39 15 37	39 13 24	39 11 24	39 9 4
	0·00552	0·00552	0·00552	0·00552	0·00552
	0·09399	0·09399	0·09399	0·09399	0·09399
	9·32012	9·31874	9·31742	9·31623	9·31484
	9·80166	9·80130	9·80095	9·80064	9·80028
	9·22129	9·21955	9·21788	9·21638	9·21463
	h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.
	3 12 37·6	3 12 13	3 11 49·4	3 11 28·4	3 11 3·9
	8 47 22·4	8 47 47	8 48 10·6	8 48 31·6	8 48 56·1
	+ 30	+ 30	+ 30	+ 30	+ 30
	8 47 52·4	8 48 17	8 48 40·6	8 49 01·6	8 49 26·1
	8 51 52	8 52 16·5	8 52 40·5	8 53 2	8 53 25
	3 59·6	3 59·5	3 59·9	4 00·4	3 58·9
	3 59·5				
	3 59·9				
	4 00·4				
	3·58·9				
	19 58·3				

Time by D. 12859

h. m. s.	
8 15 52	
8 52 16·5	
8 52 40·5	
8 53 2	
8 53 25	
13 16	
8 52 59	
Chron. F. — 4	
8 48 59	
Equa. — 30	
8 49 99	
Long. Time 2 52 30	
5 56 59	
12	
T. from Noon 6 03 00	

H. Diff. 54″·38 / 6 / 326·28 / 3 | 1/20 | 2·72 / 329·00

Decl. — 5 29·0 / 9 12 22·8 / 9 6 53·8 N. / 90 / P. D. 80 53 00·2

H. Diff. ·650 / 6 / 3·900 / 3 | 1/20 | 32 / + 3·932 / 0 26·09

Equa. 0 30·02

D. 59 P.M.T. 3 59·66
D. 60 S. D. 59 5 7
D. 60 S. M.T. 1 07·34

D. 12859 S. M. T. Koiyunjik, March 13th .... m. 0 s. 2·7
D. 12859 F. M. T. Koiyunjik, April 13th .... 3 59·66
Gain in 31 days .... 4 02·36
Daily Gain .... 0 7·818

D. 12860 S. M. T. Koiyunjik, March 13th .... m. 1 s. 32·7
D. 12860 S. M. T. Koiyunjik, April 13th .... 1 07·34
Gain in 31 days .... 25·34
Daily Gain .... 0 0·818

BAGHDAD.

Sights for Diff. Long. between Koiyunjik and Baghdad.

April 18th, 1852.

Altitudes, Sun's L. Limb.

Time by D. 12859	Alt.	Alt.	Alt.	Alt.	Alt.
h. m. s.	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″
9 21 13·5	94 34 10	94 42 20	94 49 50	94 58 20	95 19 00
9 21 34	47 17 5	47 21 10	47 24 55	47 29 10	47 39 50
9 21 54	+ 15 9	+ 15 9	+ 15 9	+ 15 9	+ 15 9
9 22 15·7	47 32 14	47 36 19	47 40 04	47 44 19	47 54 39
9 23 9·7	79 6 7	79 6 7	79 6 7	79 6 7	79 6 7
110 06·9	33 19 40	33 19 40	33 19 40	33 19 40	33 19 40
9 22 02	159 58 01	160 02 06	160 05 51	160 10 06	160 20 26
+ 23	79 59 00	80 01 03	80 02 55	80 5 3	80 10 13
9 22 25	32 26 46	32 24 44	32 22 51	32 20 44	32 15 34
+ 44					
9 23 09					
2 57 40					
6 25 29	0·00790	0·00790	0·00790	0·00790	0·00790
12	0·07803	0·07803	0·07803	0·07803	0·07803
5 34 31	9·24039	9·23892	9·23758	9·23604	9·23229
	9·72957	9·72917	9·72880	9·72837	9·72734
	9·05589	9·05402	9·05231	9·05084	9·04556

H. Diff.	52·35	h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.
	5	2 37 40·3	2 37 19·2	2 36 59·9	2 36 37·7	2 35 44
	261·75	9 22 19·7	9 22 40·8	9 23 00·1	9 23 22·3	2 24 16
30 | ½	26·17	− 43·3	− 43·3	− 43·3	− 43·3	− 43·3
5 | 1/12	4·36	9 21 36·4	9 21 57·5	9 22 16·8	9 22 39·0	9 23 32·7
	292·28	9 21 13·5	9 21 34	9 21 54	9 22 15·7	9 23 9·7
	− 4 52·28	22·9	23·5	22·8	23·3	23·0
	10 58 45·7	23·5				
Decl.	10 53 53·5 N.	22·8				
	90	23·3				
P. D.	79 06 06·5	23·0				
		115·5				
	D. 59 S. M. T.	23·1				
	D. 60 S. 59	5 45.85				
	D. 60 S. M. T.	6 8·95				

D. 12859. F. M. T. Koiyunjik, April 13th ..... m. 3 s. 59·66
Gain in 5 days, at 7·918 s. daily ..... + 39·09
D. 12859. F. M. T. Koiyunjik, April 18th ..... 4 38·75
D. 12859. S. M. T. Baghdad, April 18th ..... + 23·1
Diff. Long. in Time ..... 5 01·85

H. Diff.	·573
	5
	2·865
30 | ½	286
5 | 1/12	48
	− 3 3·199
	0 46·48
Equa.	0 43·281

D. 12860. S. M. T. Koiyunjik, April 13th ..... m. 1 s. 07·34
Gain in 5 days, at 818 s. daily ..... − 4·09
D. 12860. S. M. T. Koiyunjik, April 18th ..... 1 03·25
D. 12860. S. M. T. Baghdad, April 18th ..... 6 8·95
Diff. Long. in Time ..... 5 5·70

	m. s.	° ′ ″
D. 12859. =	5 01·85 = Diff. Long.	1 15 28
D. 12860. =	5 05·7 = Diff. Long.	1 16 25
Means give Koiyunjik W. Baghdad		1 15 56 W.
By the rate up, Koiyunjik W. Baghdad		1 14 15 W.
Means of Rates, Koiyunjik W. Baghdad..		1 15 5 W.

APPENDIX I.

English and Arabic Equivalents to the Syriac.		Syriac.	Corrupt Arabic Names now in general use.	English Equivalents to the corrupt Arabic Forms.	Signification, according to Modern Expounders of the Titles.
Beth Zeghira	بيت زغيرا	ܒܝܬ ܙܥܝܪܐ	بزغيرا	Bezghira	Place of Reproof.
Beth Rama	بيت رما	ܒܝܬ ܪܡܐ	بارما	Barima	Place of Eminence.
Tel-Yemtha	تل يمثا	ܬܠ ܝܡܬܐ	تلمثا	Telemtha	Mound of Little Lake.
Deyra	ديرا	ܕܝܪܐ	ديرك	Deyrek	Monastery.
Beth Fonaya	بيت فونايا	ܒܝܬ ܦܘܢܝܐ	بيبوخ	Beibokh	Place of Repose.
Tel Yara	تل يعرا	ܬܠ ܝܥܪܐ	تل يعرا	Tel Yara	Mound of Weed.
Beth Hezyana	بيت حزيانا	ܒܝܬ ܚܙܝܢܐ	باحزاني	Ba-khazanieh	Place of Revelation (and residence of "seers" until the present time).
Beth Heshika	بيت حشيكا	ܒܝܬ ܚܫܝܟܐ	بحشيكه	Ba-kheshikeh	Place of the Slandered.
Tel Billa	تل بلّا	ܬܠ ܒܠܐ	تل بلّا	Tel Billa	Mound of the Shapeless.
Beth Gerba	بيت كربا	ܒܝܬ ܓܪܒܐ	باجربوعة	Ba-Jerbu'ah	Place of the Leprous.
Mar Gorgis	مار كوركيس	ܡܪ ܓܘܪܓܝܣ	مارگوركيس	Mar-Gurgis	House of St. George.
Beth Abira	بيت ابيرا	ܒܝܬ ܐܒܝܪܐ	بعويرا	Ba-aowirch	Place of the Ford.
Beth Zowaya	بيت زوايا	ܒܝܬ ܙܘܝܐ	بازويه	Bazwaiych	Place of Glory.
Mar Daniel	مار دانيل	ܡܪ ܕܢܝܐܝܠ	مار دانيل	Mar Daniel	St. Daniel.
Beth Sakra	بيت شكرا	ܒܝܬ ܫܟܪܐ	با شكرى	Ba-Sakhreh	Place of the Buckler.
Beth Shalim	بيت شاليم	ܒܝܬ ܫܠܡܐ	باسالم	Ba-Salim	Place of Peace.
Beth Tulla	بيت طلّا	ܒܝܬ ܛܠܐ	برطلة	Bertalleh	Place of Dew.
Beth Shebitha	بيت شبيثا	ܒܝܬ ܫܒܝܬܐ	باشبينه	Bashpitha	Place of Captivity.
Dera-debar Aeta	ديرا دبر عيثا	ܕܝܪܐ ܕܒܪ ܥܝܬܐ	دير ربان بريتا	Deyr Rabban Baryta	Monastery of the Monk Baryta.
Tel Gella	تل جلّا	ܬܠ ܓܠܐ	ترجلّة	Terjilla	Mound of High Pasture.
Keramlis	كرم ليس	ܟܪܡ ܠܝܣ	كرم ليس	Keramlis	Vineyard of Lis, and "without honour."
Mar Behnam	مار بهنام	ܡܪ ܒܗܢܡ	مار بهنام	Mar Behnam	Saint of the Good Name. Compare Persian بهنام
Athur	اثور	ܐܬܘܪ	موصل نوردشير	Mosul-Nuardishir	"Joining" (between Syria and Persia)—Athur—and "renovated by Ardishir."
Ninwa	نينوي	ܢܝܢܘܐ	نينوي	Ninwa	Nineveh, House of Nin or Ninus.
Yonan Nebiya	يونان نبيا	ܝܘܢܢ ܢܒܝܐ	نبي يونس	Nebbi-Yunus	Prophet Jonah.
Toura Dalkaf	طورا دالكاف	ܛܘܪܐ ܕܟܟܦ	جبل مقلوب	Jebel Maklub	The Overturned or Barren.
Mar Mutti	مار متي	ܡܪ ܡܬܝ	شيخ متي	Sheikh Mutti	Sheikh Matthew, or Saint Matthew.

00175021

Digitized with financial assistance from the
Government of Maharashtra
on 28 September, 2015